

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

MARCH 2019

Temperature (°C)	Anomaly	Rank in the past 138 years
Mean maximum	12.8	+1.6 16 th highest
Mean minimum	5.2	+2.0 4 th highest
Daily mean	9.0	+1.8 5 th highest
Highest maximum	18.7	on 30 th Lowest maximum 9.7 on 12 th
Highest minimum	10.0	on 16 th Lowest minimum -0.9 on 26 th
Mean grass minimum	1.8	+1.9 Lowest grass minimum -4.6 on 26 th
Mean earth @30 cm	8.5	+1.4 Earth @100 cm 8.3
Frost duration (hrs)	3.1	Rain duration (hrs) 52.7
Rainfall total (mm)	48.0	105 % 53 rd highest
Highest daily fall	9.5	on 9 th Highest rate mm/hr 39 on 12 th
Number of: Dry days (<0.2mm)	16	Wet days (>0.9mm) 11 days ≥5mm 4
Sunshine total (hrs) 136.3	Daily mean 4.40	111 % Sunniest day 12.0 on 25 th
N° days with: Air frost 1	Ground frost 12	Snow falling 0 Snow lying 0
Thunder 1	Hail ≥5mm 0	Small hail/ice 3 Fog @09 0 Nil sun 2
Pressure MSL: Mean @09 GMT, mbar 1017.0	+1.1	Highest 1037.7 on 28 th Lowest 985.2 on 6 th
Relative humidity: Mean (%) 77.3	Lowest 35	on 10 th Water vapour (g/kg), mean at 09 and 15 GMT 5.6, 5.2
Overall mean wind speed (mph) 9.0	Windiest day 17.3	on 16 th Max gust 54 on 10 th
Wind direction (days)	N 1 NE 2 E 0 SE 0 S 2 SW 15 W 8 NW 3	
Least windy day (mph) 3.0	on 28 th	Calm; less than 0.5 mph (minutes) 587

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

Notes:

Very mild and Quite Sunny with Above Average Rainfall. Very Windy Until Mid-Month.

This has been a month of contrasts, wet and very windy for the first half then calmer, dry and increasingly sunny. **Temperature:** This has been a mild March with the mean temperature in the top 10% of ranked values since 1882. The high ranking is mainly due to the mean minimum being 4th highest on record, but 1.1° below the record set in 1981. The mean maximum, however, ranks only 16th highest and is 2.8° below the record. The highest max is 2.0° above the median while the lowest max is 5.1° above the median and is 3rd highest in 107 years. The highest min is 1.2° above the median while the lowest min is 3.2° above its median and is 5th highest in 116 years. The mean grass min is 2nd highest after 2017 since 1998. The mean earth temperatures at 30 cm and 1 m depth are well above average. The number of air frosts is also 2nd lowest after 2017 since 1997, and the duration of air frost is 36.4 hours below average. Anomalies for daily max were near or above normal throughout, with extreme values of +6° on the 30th and -1° on the 10th and 17th. Anomalies for daily min were also mostly near or above normal, except for -4° on the 26th, and exceeded +5° on several days with an extreme value of +6.9° on the 3rd. **Rainfall:** The total this month was 5 % above average, but this belies the fact that the whole rainfall occurred before the 19th, the final 13 days being dry. In recent years, March 2018 was much wetter, and 2015 much drier than this month. The number of dry days is about average, and the duration of measurable rain is 18 % above average. Small hail (ice pellets) fell on the 4th, 10th and 18th, and there was also thunder on the 10th. There were heavy showers on the 4th, 12th and 16th with rainfall rates between 30 and 40 mm/hr. Rainfall accumulation compared with normal was 10 mm in surplus by the 6th, and this had increased to 22 mm by the 13th, peaking at 23 mm on the 16th after which the dry conditions set in and the surplus dwindled to 2 mm by the 31st. **Sunshine:** The total this month puts it into the sunny category, but this was only because of the high daily totals after the 23rd. Compared with recent years, it is the sunniest since 2015, but in this millennium 7 Marches have been sunnier. Up to the 23rd, only 3 days had more than 50 % of the maximum, and 10 had less than 20 %. In contrast, in the final 9 days, 5 had over 80 % of the maximum, and none had less than 30 %. Sunshine accumulation compared with normal was 12 hours in deficit by the 8th, and although this decreased to 5 hours by the 11th it subsequently increased to 27 hours by the 23rd, after which sunny conditions decreased the deficit to zero by the 28th and returned a surplus of 12 hours by the 31st. Overall there were 12 days with <3 hours, 8 with =>6 hours, 6 with =>9 hours and 1 with =>12 hours. **Wind:** This has been a month of marked contrasts, very windy up to the 16th, then relatively calm. The mean speed is 1.4 mph above average and highest for March since 2008, and before that 1995. The highest gust is equal highest with 2018 and 2004 since 1995. Daily mean winds were mainly SW'ly up to the 22nd, NW'ly from 24th to 27th and on 30th, NE'ly on 23rd and 31st and S'ly on the 28th and 29th. Daily mean speeds were mainly fresh or strong from 2nd to 17th, but light on 1st and moderate on the 5th and 8th, but were very strong on the 16th. After the 17th they were mainly light occasionally moderate.

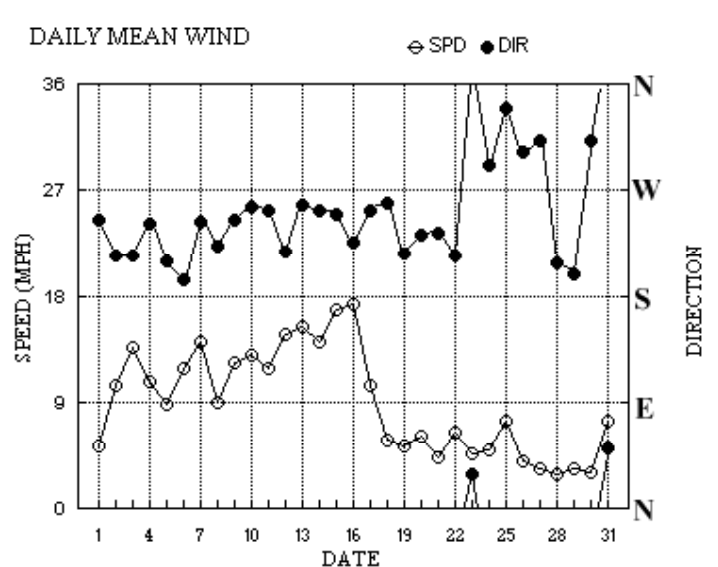
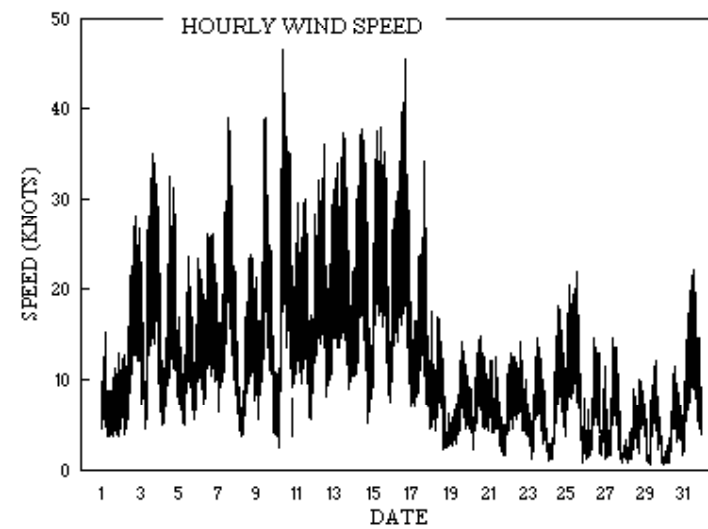
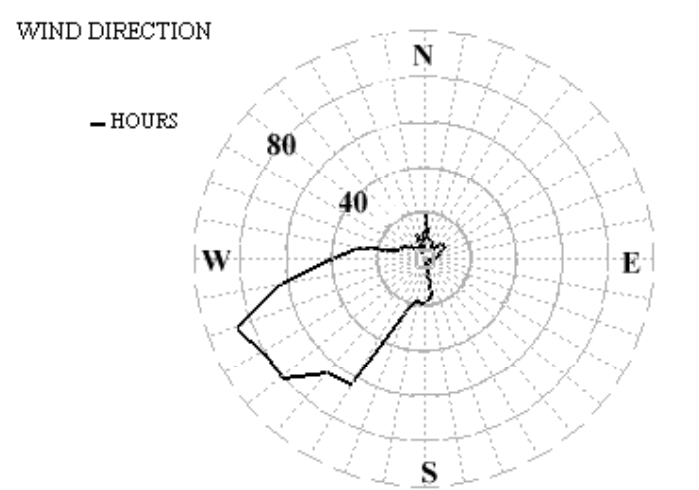
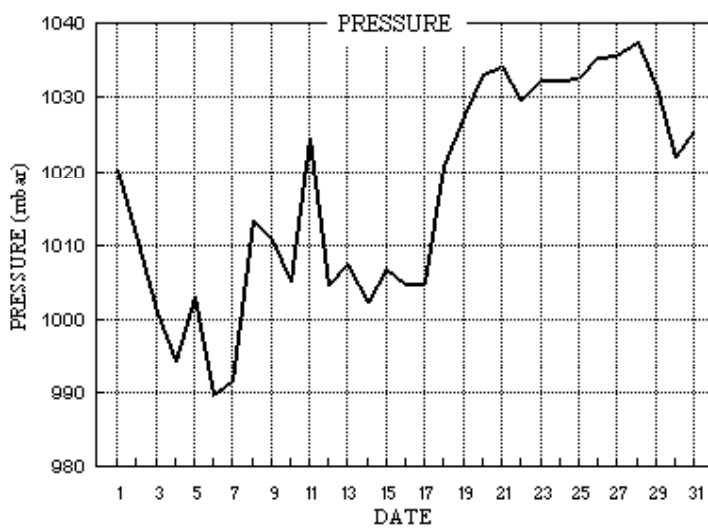
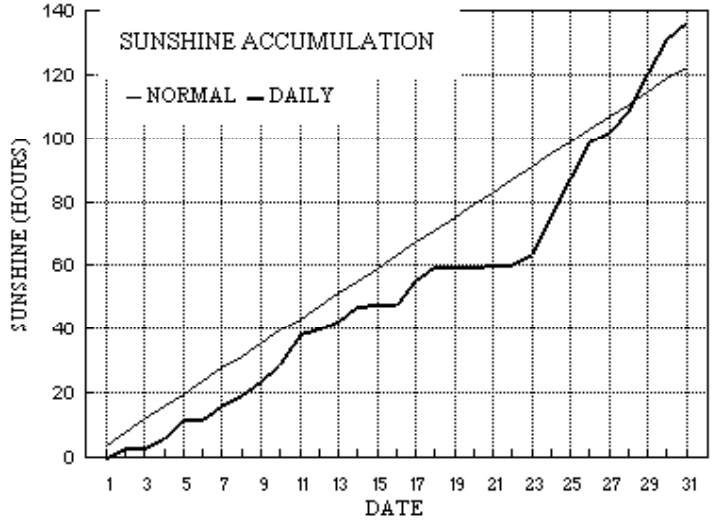
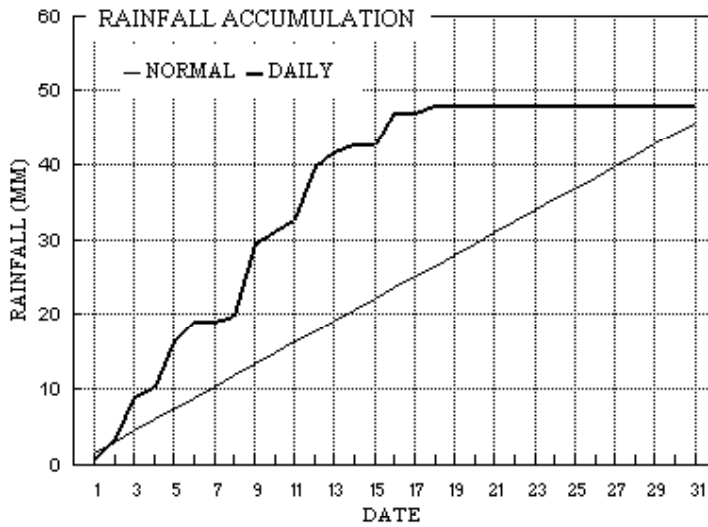
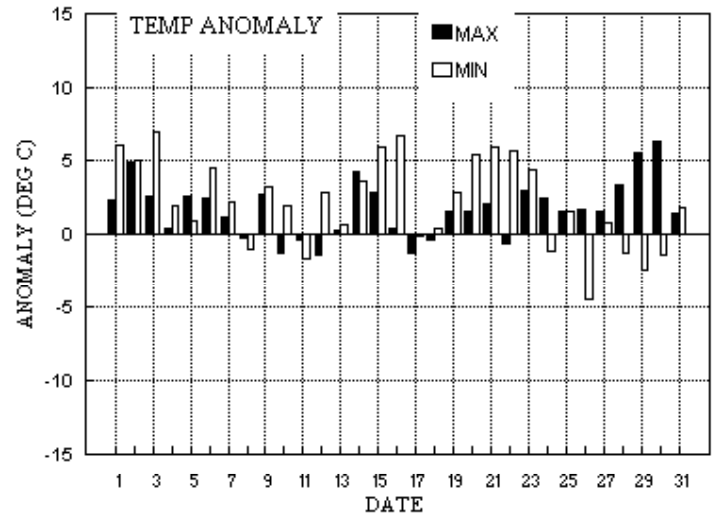
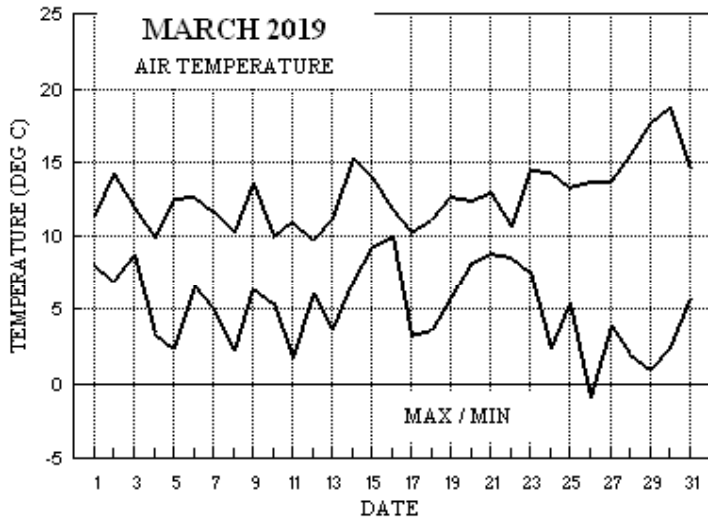
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
+1.7°	+3.1°	211%	73%	+0.7°	+2.6°	116%	78%	+2.5°	+0.9°	0%	175%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for March 2019



Month: MARCH 2019

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff HH	Rain hrs						
1	11.4	8.1	0.6	5.6	6.9	7.5	0.1	0.0	1020.2	0	0	0	0	245	3.4	4.6	285	15	0411	310	7	04	1.3
2	14.2	7.0	2.9	2.5	7.3	7.5	3.0	0.0	1011.2	0	0	0	0	215	8.4	9.1	215	28	1918	215	14	22	6.1
3	11.9	8.7	5.5	7.9	7.9	7.6	0.1	0.0	1000.9	0	0	0	0	214	11.7	11.9	198	35	1645	213	17	19	7.2
4	9.9	3.4	1.4	-0.8	8.0	7.7	2.8	0.0	994.4	0	1	0	0	242	9.2	9.3	263	33	1302	251	14	16	0.2
5	12.5	2.3	5.9	-2.2	7.6	7.8	5.8	0.0	1003.1	0	1	0	0	209	7.1	7.7	248	24	1133	223	11	13	8.9
6	12.7	6.6	2.7	7.6	7.7	7.9	0.3	0.0	989.7	0	0	0	0	193	9.8	10.4	221	26	1735	187	13	12	1.7
7	11.7	5.0	tr	0.8	8.0	7.9	4.1	0.0	991.6	0	0	0	0	243	12.0	12.2	242	39	1305	247	20	13	0.1
8	10.2	2.2	0.9	-4.2	7.9	8.0	3.2	0.0	1013.2	0	1	0	0	223	7.5	7.8	215	24	1701	210	12	20	2.7
9	13.6	6.4	9.5	0.6	7.9	8.1	4.6	0.0	1010.6	0	0	0	0	244	10.2	10.7	261	39	1132	258	19	11	7.8
10	10.0	5.4	1.8	5.4	8.0	8.1	5.2	0.0	1005.0	0	0	0	1	255	9.4	11.2	286	47	0825	261	19	10	0.6
11	11.0	1.7	1.5	-1.1	7.8	8.1	9.1	0.0	1024.6	0	1	0	0	253	9.4	10.4	267	30	1216	280	14	10	3.9
12	9.7	6.1	7.1	5.5	7.8	8.2	1.7	0.0	1004.7	0	0	0	0	218	11.8	12.7	206	36	1126	200	17	11	3.8
13	11.1	3.7	2.1	0.9	7.6	8.1	2.6	0.0	1007.3	0	0	0	0	257	13.1	13.4	263	37	1226	268	16	11	4.3
14	15.2	6.9	0.9	5.2	7.7	8.1	4.8	0.0	1002.4	0	0	0	0	253	11.6	12.2	257	38	1128	259	20	10	1.2
15	13.9	9.3	tr	5.3	8.2	8.1	0.3	0.0	1006.9	0	0	0	0	249	14.5	14.6	251	38	1109	252	19	09	0.0
16	11.8	10.0	4.4	9.3	8.7	8.2	0.1	0.0	1004.9	0	0	0	0	226	14.8	15.0	225	46	1632	222	21	16	2.3
17	10.2	3.3	tr	-1.1	8.7	8.3	7.8	0.0	1004.9	0	1	0	0	252	9.0	9.0	268	34	1556	254	14	17	0.0
18	11.1	3.6	0.8	-1.3	8.5	8.4	4.1	0.0	1020.7	0	1	0	0	259	4.1	5.0	292	18	0129	291	8	11	0.6
19	12.7	5.8	tr	0.1	8.4	8.4	0.2	0.0	1027.6	0	0	0	0	216	4.6	4.7	243	14	1406	235	7	14	0.0
20	12.4	8.2	0.0	3.8	8.8	8.5	0.0	0.0	1033.3	0	0	0	0	232	5.2	5.3	242	15	1329	242	8	13	0.0
21	13.0	8.9	0.0	8.6	9.2	8.5	0.1	0.0	1034.3	0	0	0	0	234	2.4	3.8	241	13	0911	238	6	01	0.0
22	10.6	8.6	tr	8.2	9.6	8.6	0.0	0.0	1029.6	0	0	0	0	215	5.4	5.6	233	14	1629	194	7	03	0.0
23	14.5	7.6	0.0	1.1	9.5	8.7	4.1	0.0	1032.4	0	0	0	0	30	2.6	4.1	30	15	1222	21	7	11	0.0
24	14.3	2.4	0.0	-2.0	9.6	8.8	11.5	0.0	1032.3	0	1	0	0	291	3.9	4.4	316	18	1445	296	9	14	0.0
25	13.3	5.4	0.0	1.3	9.4	8.9	12.0	0.0	1032.6	0	0	0	0	339	5.3	6.4	352	22	1234	354	11	10	0.0
26	13.7	-0.9	0.0	-4.6	9.1	9.0	10.8	3.1	1035.5	1	1	0	0	302	2.2	3.5	338	15	1049	351	6	11	0.0
27	13.7	3.9	0.0	-0.4	9.0	9.0	3.9	0.0	1035.8	0	1	0	0	311	1.5	3.0	338	15	1049	351	6	11	0.0
28	15.5	2.0	0.0	-2.0	9.0	9.0	6.4	0.0	1037.5	0	1	0	0	208	1.4	2.6	162	10	1924	185	5	20	0.0
29	17.7	0.9	0.0	-3.1	9.2	9.0	11.9	0.0	1031.3	0	1	0	0	199	2.8	3.0	192	12	1542	212	6	15	0.0
30	18.7	2.3	0.0	-1.7	9.4	9.1	10.7	0.0	1022.0	0	1	0	0	312	1.6	2.7	273	12	1516	261	5	15	0.0
31	14.4	5.8	0.0	0.5	9.8	9.1	5.0	0.0	1025.5	0	0	0	0	52	6.2	6.5	62	22	1308	57	10	12	0.0

Total			48.0				136.3	3.1															52.7
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Mean	12.8	5.2		1.8	8.5	8.3	4.40	0.1	1017.0					239	5.9	7.8								
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Anom	+1.6	+2.0	105%	+1.9	+1.4	+0.8	111%			+1.1													
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Daily mean	9.0																						
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Anom	+1.8																						
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Number of days with:

Air frost = 1	Ground frost = 12	Nil sun = 2
Snow falling = 0	Snow lying = 0	Thunder = 1
Hail=>5mm = 0	Hail<5mm or ice = 3	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 MARCH 2019

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	59	7	27	04	09	8.8	6.6	86	6.0	1020.2	1	020	05	2	2	8	5	6	/	/	87635						1		
2	58	8	25	05	11	9.9	9.3	96	7.3	1011.2	1	007	20	6	5	8	5	2	/	/	83705	85708	88615			2			
3	25	8	21	13	24	11.3	10.5	95	8.0	1000.9	7	020	58	6	5	7	7	3	2	/	85706	87712	88540			3			
4	84	7	24	08	15	5.2	2.7	84	4.7	994.4	2	044	02	2	2	1	1	4	0	2	81815	87072				4	2Ci68 COTRA Cu fra		
5	86	1	23	05	13	6.6	2.9	77	4.7	1003.1	2	010	03	0	0	1	0	9	3	4	81365					5	1Ci72		
6	62	8	18	09	17	10.3	9.2	93	7.3	989.7	6	011	20	5	6	8	5	4	/	/	83712	87618	88625			6			
7	62	7	24	14	26	6.9	4.6	85	5.3	991.6	2	020	80	8	1	7	8	4	6	/	85815	86635				7	/Ac60 Cu med		
8	70	7	22	05	09	6.4	3.4	81	4.8	1013.2	1	013	03	1	1	0	0	9	0	6	87275					8	COTRA		
9	62	3	23	14	24	9.7	6.4	80	6.0	1010.6	8	004	03	1	1	2	1	4	0	1	82818					9	2Ci72 COTRA Cu fra		
10	88	2	27	15	47	9.7	3.4	65	4.9	1005.0	3	065	01	6	5	2	1	6	0	0	82833					10	Cu hum		
11	82	1	27	12	26	6.1	-0.4	63	3.6	1024.6	2	030	03	0	0	1	1	5	0	1	81820					11	1Ci80 Cu fra		
12	40	8	20	16	29	8.6	7.5	93	6.5	1004.7	8	051	51	6	5	8	5	3	/	/	87708	88618				12			
13	70	7	25	14	31	8.6	3.0	68	4.7	1007.3	3	028	03	1	1	7	8	5	/	/	83825	86635				13	Cu hum		
14	84	7	25	18	35	10.9	8.1	83	6.8	1002.4	7	025	21	6	2	7	5	4	/	/	87617	87640				14			
15	80	8	25	19	34	12.3	9.5	83	7.4	1006.9	1	007	20	5	2	8	5	4	/	/	87615	88640				15			
16	70	8	23	19	34	10.4	7.1	80	6.3	1004.9	6	013	02	5	2	8	5	4	/	/	87615	88620				16			
17	86	1	26	09	17	6.5	2.2	74	4.5	1004.9	2	031	03	0	0	1	1	4	6	3	81818					17	1Ac65 1Ci68 Cu fra		
18	78	6	27	06	13	8.2	3.5	72	4.8	1020.7	1	013	02	2	2	1	5	7	7	0	81656	83362	85367			18	2Ac59 3Ci65 COTRA Parhelia Cz arc		
19	50	7	23	04	07	8.6	7.2	91	6.2	1027.6	3	013	05	6	5	7	5	3	/	/	86706	87625				19			
20	70	8	25	06	11	9.7	7.6	87	6.4	1033.3	3	018	02	2	2	8	6	3	/	/	87708	88711				20			
21	68	7	24	05	10	11.0	8.4	84	6.7	1034.3	3	006	01	2	2	7	5	4	/	/	83610	87615				21			
22	64	8	25	06	12	8.7	6.3	85	5.8	1029.6	0	002	02	2	2	8	6	4	/	/	88710					22			
23	65	8	01	05	09	10.0	7.2	83	6.2	1032.4	2	019	02	2	2	8	5	4	/	/	81615	86625	88635			23			
24	68	3	24	02	06	8.6	2.8	67	4.5	1032.3	2	005	01	1	1	2	5	6	0	1	82630					24	2Ci80 COTRA		
25	80	1	36	11	18	8.8	1.2	59	4.1	1032.6	0	211	03	0	0	1	1	5	0	0	81828					25	Cu fra		
26	68	3	25	04	08	7.1	3.0	75	4.6	1035.5	2	002	02	0	0	1	5	0	1		81620	83080				26	1Ci70 COTRA		
27	75	7	34	04	07	9.2	3.4	67	4.7	1035.8	2	009	03	2	2	7	5	6	/	/	87637					27			
28	61	7	36	01	03	8.4	5.2	80	5.3	1037.5	0	003	02	2	2	7	6	6	/	/	87638					28			
29	57	0	23	03	05	10.7	4.8	67	5.2	1031.3	7	009	05	0	0	0	0	9	0	0						29			
30	50	1	26	02	04	10.1	6.6	79	6.0	1022.0	0	002	05	0	0	1	0	9	3	0	81362					30			
31	60	8	06	07	17	8.8	6.1	83	5.8	1025.5	2	017	05	2	2	8	5	4	/	/	86615	88618				31			

Mean vis = 22.7 km
 Mean cloud = 5.5 69%
 Mean wind speed = 8.5 kn
 Mean gust = 17 kn
 Mean TT = 8.9 °C
 Mean TdTd = 5.5 °C
 Mean RH = 79.5 %
 Mean r = 5.6 g/kg
 Mean PPP = 1017.0 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

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for MARCH 2019

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ci	NCh	shs	NCh	shs	NCh	shs	Date	Remarks				
1	63	8	21	05	09	11.1	7.4	78	6.3	1019.0	7	012	02	2	2	8	8	5	/	/	82820	886358	Cu	hum			1						
2	82	7	21	12	23	13.1	6.2	63	5.9	1009.7	5	015	03	1	1	1	8	6	4	6	81830	87270			2	1Sc35	1Ac65	Cu	hum				
3	58	8	20	15	31	11.0	8.6	85	7.0	994.9	7	048	61	6	5	8	8	4	/	/	83815	86625	88630		3				Cu	hum			
4	80	7	24	12	24	8.4	3.7	72	5.0	997.3	1	010	15	8	2	5	9	5	/	2	81925	84830	87070		4	jpS	vv70k	ex	S				
5	84	7	21	08	19	10.8	3.8	62	5.0	1003.4	8	008	80	8	2	5	8	6	7	1	82830	84645	86367		5	2Ac62	/Ci75	Cu	med				
6	65	7	20	11	22	12.2	9.8	85	7.7	986.1	6	018	25	8	2	7	8	4	/	8	84818	85630	87273		6	Cu	med	jp	SE&SW				
7	80	7	25	20	38	10.2	2.8	60	4.7	993.8	3	013	15	2	2	2	8	6	7	/	82833	85460			7	1Sc50	3Ac65	Cu	med	jpN			
8	62	8	20	10	23	9.3	5.1	75	5.5	1010.7	8	027	21	6	2	7	8	5	2	/	82823	83640	86656		8	8As58	Cu	med	jpNW				
9	82	7	27	13	30	11.5	-1.0	42	3.5	1014.5	1	021	03	1	1	1	1	6	3	2	81845	87072			9	2Ac68	COTRA	Cu	hum				
10	86	2	26	16	35	9.1	-2.5	44	3.1	1014.9	1	031	02	8	1	2	2	7	0	0	82850				10				Cu	med			
11	86	4	28	09	26	10.6	-1.4	43	3.4	1026.6	0	000	03	1	1	1	1	7	4	1	81850	83075			11	1Ac67	Cu	hum					
12	65	8	26	07	21	3.9	2.9	93	4.7	1002.3	1	033	63	6	6	7	5	3	2	/	83708	86612	88525		12								
13	80	7	27	11	33	9.9	2.0	58	4.4	1011.5	2	022	25	8	2	7	8	6	/	/	84835	84650			13	Cu	med	jpN&S					
14	82	6	28	17	37	14.1	2.0	44	4.4	1005.2	3	025	02	8	1	3	8	6	0	6	82845	85080			14	2Sc50	2Cs78	COTRA	Cu	hum			
15	86	7	25	17	35	13.3	9.2	76	7.2	1008.4	3	007	01	6	2	6	8	5	/	8	84820	83650	87275		15				Cu	hum			
16	82	8	22	17	36	11.3	6.2	71	6.0	999.8	8	029	02	5	2	8	5	5	/	/	87625	88630			16								
17	80	6	25	12	26	9.6	-0.6	49	3.6	1007.6	3	005	25	8	2	4	9	6	6	3	82935	82845			17	1Ac65	2Ci70	jpNE	vv60k	ex	p		
18	65	7	34	04	13	9.8	4.6	70	5.2	1021.6	3	001	25	8	2	5	8	5	7	/	81820	83650	86360		18	2Cu28	Cu	med	jpNW,E&S	vv	40k	ex	p
19	65	8	23	08	14	11.9	7.6	75	6.4	1027.7	7	004	15	2	2	8	8	4	/	/	82818	88635			19				Cu	med	jpNW		
20	83	8	24	05	13	12.0	8.3	78	6.6	1032.7	6	004	02	2	2	8	5	4	/	/	87617	88622			20								
21	72	8	32	02	06	12.8	8.5	75	6.7	1032.7	8	015	02	2	2	8	5	4	/	/	88616				21								
22	67	8	23	08	13	10.5	6.6	77	6.0	1027.5	6	011	02	2	2	8	5	4	/	/	82615	88618			22								
23	82	7	05	06	12	13.8	3.8	51	4.9	1032.1	8	006	01	2	2	2	4	6	3	1	81845	83363	85075		23	2Sc48	Cu	hum					
24	82	1	31	09	18	13.3	1.3	44	4.1	1029.3	7	016	02	0	0	1	1	6	0	0	81845				24				Cu	hum			
25	81	2	36	08	16	12.9	0.0	41	3.7	1032.8	8	004	03	0	0	1	1	7	0	4	81850				25	1Ci80	COTRA	Cu	hum				
26	82	2	32	05	11	13.5	2.4	47	4.4	1033.0	8	015	01	1	1	2	4	6	0	1	82642				26				1Ci75				
27	78	3	01	06	14	12.8	3.2	52	4.7	1035.5	7	005	01	1	1	3	4	6	0	0	81835	83638			27				Cu	hum			
28	62	2	18	03	07	14.8	3.0	45	4.6	1034.3	7	020	01	1	1	2	1	6	0	0	82840				28				Cu	hum			
29	61	0	20	04	10	17.0	4.3	43	5.1	1026.2	7	029	02	0	0	0	0	9	0	0					29								
30	58	4	25	04	11	18.6	6.4	45	5.9	1019.4	6	015	05	1	1	4	8	6	0	0	82845	83656			30				Cu	med			
31	80	4	07	09	21	14.3	5.1	54	5.4	1024.6	7	011	01	1	1	4	8	6	0	0	81835	84656			31				Cu	hum. El	hz	lyr	thk

Mean vis = 30.0 km

Mean cloud = 5.7 72%

Mean wind speed = 9.5 kn

Mean gust = 21 kn

Mean TT = 11.9 °C

Mean Td = 4.2 °C

Mean RH = 61.2 %

Mean r = 5.2 g/kg

Mean PPP = 1016.6 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

Td = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

Cl = Type of low cloud (Code FM12-0513)

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs = Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Wokingham Sunshine Hourly analysis 2019	Hour	01-Mar	02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar	16-Mar
	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	0.20	0.00	0.00	0.28	0.00	0.04	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.94	0.00	0.40	1.00	0.10	0.00	1.00	0.00	0.31	0.00	0.00	0.00
	8	0.00	0.00	0.00	0.01	1.00	0.00	0.49	1.00	0.95	0.78	1.00	0.00	0.00	0.00	0.00	0.00
	9	0.00	0.00	0.00	0.56	1.00	0.00	0.71	1.00	0.28	0.46	1.00	0.00	0.02	0.00	0.01	0.00
	10	0.00	0.06	0.00	0.38	1.00	0.08	0.63	0.01	0.07	0.12	1.00	0.00	0.14	0.68	0.00	0.00
	11	0.04	0.95	0.00	0.22	0.86	0.01	0.37	0.00	0.83	0.36	1.00	0.00	0.44	0.83	0.00	0.00
	12	0.00	0.41	0.00	0.32	0.00	0.00	0.82	0.00	0.62	0.29	0.89	0.00	0.51	0.69	0.00	0.00
	13	0.00	0.98	0.00	0.04	0.33	0.00	0.22	0.00	0.68	0.75	0.83	0.00	0.38	0.96	0.00	0.01
	14	0.00	0.59	0.00	0.20	0.68	0.01	0.44	0.00	0.53	0.68	0.86	0.00	0.17	0.97	0.02	0.00
	15	0.00	0.00	0.00	0.21	0.00	0.00	0.01	0.00	0.44	0.97	0.94	0.24	0.34	0.52	0.28	0.00
	16	0.00	0.02	0.04	0.69	0.00	0.06	0.00	0.00	0.12	0.70	0.28	0.71	0.00	0.18	0.00	0.00
	17	0.00	0.00	0.09	0.17	0.00	0.16	0.00	0.00	0.00	0.04	0.00	0.70	0.20	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		0.04	3.03	0.14	2.82	5.81	0.33	4.09	3.21	4.63	5.16	9.07	1.65	2.55	4.82	0.32	0.01

Hour	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	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	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.75	0.54	0.00	0.00	0.69	0.43	0.00	0.12
7	1.00	0.75	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.09	0.00	1.00	1.00	0.00	0.34
8	1.00	1.00	0.01	0.00	0.00	0.00	0.00	0.99	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.39
9	0.78	0.60	0.00	0.00	0.05	0.00	0.00	1.00	1.00	1.00	0.00	0.42	1.00	1.00	0.00	0.38
10	0.70	0.11	0.01	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.19	1.00	1.00	0.00	0.33
11	0.47	0.28	0.00	0.00	0.00	0.00	0.16	1.00	0.99	1.00	0.00	0.12	1.00	1.00	0.00	0.38
12	0.42	0.11	0.11	0.00	0.00	0.00	0.08	1.00	0.94	0.49	0.00	0.80	1.00	0.88	0.01	0.34
13	0.60	0.42	0.02	0.00	0.00	0.00	0.35	1.00	1.00	0.87	0.01	0.76	1.00	0.93	0.81	0.42
14	0.46	0.40	0.00	0.00	0.00	0.00	0.68	1.00	1.00	0.84	0.60	0.97	1.00	0.96	1.00	0.45
15	0.71	0.20	0.00	0.00	0.00	0.00	0.92	1.00	1.00	0.74	1.00	1.00	1.00	0.96	1.00	0.44
16	0.85	0.03	0.01	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.41
17	0.32	0.23	0.00	0.00	0.00	0.00	0.88	1.00	1.00	1.00	0.92	1.00	1.00	0.62	1.00	0.33
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.34	0.32	0.32	0.09	0.24	0.00	0.15	0.06
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	7.84	4.11	0.17	0.00	0.06	0.00	4.08	11.47	12.03	10.80	3.94	6.36	11.93	10.71	4.98	136.12

March 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	9.14	11.4	1301	7.0	2233	84.0	91.9	426	70.8	1305	6.6	6.0	6.4	1118	5.2	2155	1018.34	1020.6	1100	1015.2	2358	0.1	
2	10.65	14.2	1310	7.5	5	85.5	98.2	730	60.6	1418	8.2	6.8	7.8	2356	5.7	1512	1009.75	1015.3	0	1004.6	2308	0.7	
3	10.21	11.9	1702	8.2	2332	86.8	97.2	804	70.0	1830	8.0	6.8	8.0	1010	5.2	2208	997.72	1005.8	102	988.5	2350	5.4	
4	6.00	9.9	1248	2.9	2353	79.7	91.4	256	58.7	1634	2.6	4.7	5.7	114	4.1	1634	995.20	1001.9	2319	987.1	229	4.2	
5	7.23	12.5	1338	2.3	641	81.2	94.4	2125	51.1	1417	4.0	5.2	6.8	2123	4.1	612	1002.25	1004.5	1229	997.8	2356	1.6	
6	10.09	12.7	1214	7.3	2338	87.7	94.7	640	76.8	2300	8.1	6.9	7.9	1329	5.1	2304	988.93	998.0	0	985.2	2015	6.9	
7	7.65	11.7	1305	5.0	558	77.0	89.8	401	51.2	1305	3.7	5.0	5.5	1132	4.3	1225	993.84	1005.9	2358	986.6	2	0.2	
8	7.13	10.2	1352	2.2	635	83.8	95.6	639	62.4	1346	4.5	5.3	7.0	2158	4.2	627	1010.18	1013.7	1100	1005.8	0	1	
9	9.00	13.6	1207	5.9	2357	72.2	94.9	2358	39.6	1454	3.9	5.0	6.4	7	3.4	1455	1012.84	1016.6	1850	1009.4	32	2.7	
10	6.92	10.2	805	1.7	1934	76.4	100.0	518	34.7	1441	2.6	4.7	7.4	534	2.6	1445	1010.01	1018.8	2359	998.2	639	8.5	
11	6.99	11.0	1520	3.0	0	61.7	78.7	0	40.7	1338	-0.1	3.8	5.1	2332	3.1	1345	1023.41	1027.2	1310	1018.6	7	0	
12	6.74	9.7	1204	3.7	1408	86.4	94.7	723	69.4	38	4.6	5.3	7.0	1215	4.2	2310	1006.57	1019.5	4	998.6	1209	8.5	
13	8.33	11.1	1316	5.5	40	66.1	78.7	43	52.0	1733	2.3	4.5	5.1	2357	3.8	1805	1009.15	1014.6	1954	1003.4	341	0	
14	10.38	15.2	1323	6.9	257	73.9	96.1	2357	39.4	1355	5.5	5.7	7.2	1113	4.0	1355	1006.55	1013.0	9	1001.6	944	2.9	
15	11.75	13.9	1420	9.4	0	84.2	96.7	25	71.6	1606	9.1	7.2	8.0	1303	6.5	1827	1007.96	1011.2	2023	1005.1	348	0.2	
16	10.29	11.8	1326	6.5	2359	82.3	92.6	0	69.3	1430	7.4	6.4	7.5	0	5.3	2359	1002.26	1009.9	2	995.1	2002	4.3	
17	6.44	10.2	1424	3.3	632	73.3	90.2	115	43.3	1346	1.7	4.3	5.4	36	3.2	1351	1006.33	1015.7	2359	997.1	2	0	
18	7.09	11.1	1414	3.6	640	77.5	93.1	1950	49.4	1330	3.2	4.8	5.9	1604	3.9	1333	1021.09	1025.0	2359	1015.6	3	0.7	
19	9.25	12.7	1243	6.0	535	87.0	96.0	745	72.0	1234	7.1	6.2	6.8	1243	5.4	237	1027.62	1030.8	2359	1024.8	1	0.2	
20	10.37	12.4	1258	8.2	123	83.8	92.3	132	74.2	1312	7.7	6.4	6.9	1526	6.0	123	1032.52	1033.9	2317	1030.6	8	0	
21	11.06	13.0	1456	8.9	608	83.2	92.6	628	74.4	1514	8.3	6.6	7.3	1157	6.2	2312	1033.08	1034.6	1002	1030.4	2358	0	
22	9.71	11.3	13	7.6	2351	82.1	93.1	2356	76.5	11	6.8	6.0	6.3	1351	5.7	400	1028.85	1030.8	30	1027.0	1633	0	
23	9.81	14.5	1515	5.6	2359	73.7	93.7	616	46.0	1533	5.0	5.4	6.4	731	4.2	2341	1031.63	1033.4	2315	1028.4	0	0	
24	8.07	14.3	1402	2.4	312	66.7	95.4	710	40.5	1534	1.6	4.2	5.0	1019	3.5	1757	1030.80	1033.2	27	1028.8	1729	0	
25	8.07	13.3	1512	2.2	2337	62.9	89.5	2249	39.4	1502	1.0	4.0	4.6	1230	3.5	1359	1032.43	1036.2	2253	1029.0	215	0	
26	6.80	13.9	1315	-1.0	538	71.6	95.7	615	43.4	1459	1.5	4.2	5.3	1204	3.2	538	1034.54	1035.9	940	1032.4	1617	0	
27	8.19	13.7	1446	3.9	316	71.7	92.4	2352	49.9	1442	3.1	4.6	5.1	1402	4.1	309	1035.57	1037.3	2342	1034.2	253	0	
28	8.97	15.5	1414	2.0	356	72.8	97.1	413	44.3	1415	3.9	4.9	5.8	1006	4.1	356	1035.59	1037.7	847	1033.3	1814	0	
29	9.22	17.7	1413	0.9	544	71.0	97.3	618	41.3	1417	3.5	4.8	6.0	1413	3.8	542	1028.79	1033.7	1	1024.1	2352	0	
30	10.51	18.7	1525	2.3	624	72.1	97.4	637	41.5	1554	5.0	5.4	6.7	1038	4.3	624	1021.46	1024.1	4	1019.1	1541	0	
31	8.66	14.4	1453	3.6	2329	76.8	93.6	349	51.5	1521	4.6	5.2	5.9	1236	4.0	2250	1024.58	1026.2	2141	1022.0	9	0	
Total																						48.1	
Mean	8.73	12.83		4.66		77.3	93.39		55.02		4.68	5.37	6.40		4.38		1016.77	1021.44		1012.18			
Max	11.75	18.71		9.43		87.7	100.00		76.80		9.12	7.21	8.02		6.50		1035.59	1037.67		1034.16			
Min	6.00	9.74		-1.04		61.7	78.70		34.73		-0.11	3.75	4.60		2.56		988.93	997.98		985.17			

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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