

# 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

### APRIL 2018

		Anomaly	Rank in the past 137 years				
Temperature (°C)							
Mean maximum	15.1	+1.1	23 <sup>rd</sup> highest				
Mean minimum	7.1	+2.7	*Highest*				
Daily mean	11.1	+1.9	4 <sup>th</sup> highest				
Highest maximum	27.2	on 19 <sup>th</sup>	Lowest maximum	8.3	on 29 <sup>th</sup>		
Highest minimum	11.9	on 18 <sup>th</sup>	Lowest minimum	3.1	on 2 <sup>nd</sup>		
Mean grass minimum	4.4	+3.7	Lowest grass minimum	-1.2	on 6 <sup>th</sup>		
Mean earth @30 cm	10.4	+0.5	Earth @100 cm	9.1			
Frost duration (hrs)	0.0		Rain duration (hrs)	73.5			
Rainfall total (mm)	64.3	133 %	33 <sup>rd</sup> highest				
Highest daily fall	13.3	on 1 <sup>st</sup>					
Number of: Dry days (<0.2mm)	17	Wet days (>0.9mm)	10	days ≥5mm	6		
Sunshine total (hrs)	119.3	Daily mean	3.98	74 %	Sunniest day	13.7 on 19 <sup>th</sup>	
N° days with: Air frost	0	Ground frost	4	Snow falling	0	Snow lying	0
Thunder	2	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0
						Nil sun	8
Pressure MSL: Mean @09 GMT, mbar	1011.1	-3.9	Highest	1028.2	on 18 <sup>th</sup>	Lowest	991.3 on 4 <sup>th</sup>
Relative humidity: Mean (%)	79.0	Lowest	25	on 18 <sup>th</sup>	Water vapour (g/kg), mean at 09 and 15 GMT		
					6.4,	6.4	
Overall mean wind speed (mph)	7.1	Windiest day	11.4	on 4 <sup>th</sup>	Max gust	37	on 25 <sup>th</sup>
Wind direction (days)	N 6	NE 3	E 1	SE 2	S 8	SW 9	W 0
							NW 1
Least windy day (mph)	3.1	on 8 <sup>th</sup>	Calm; less than 0.5 mph (minutes)				158

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

Notes :

#### Wet, Dull and Very Mild, with a Record Breaking Hot Spell.

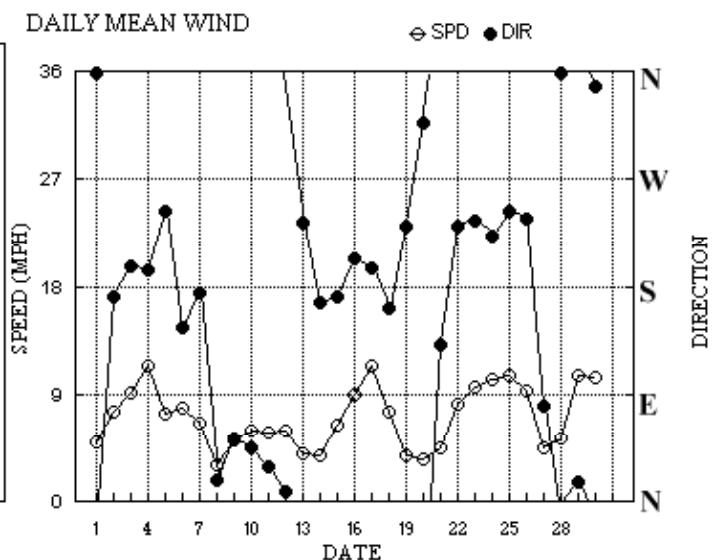
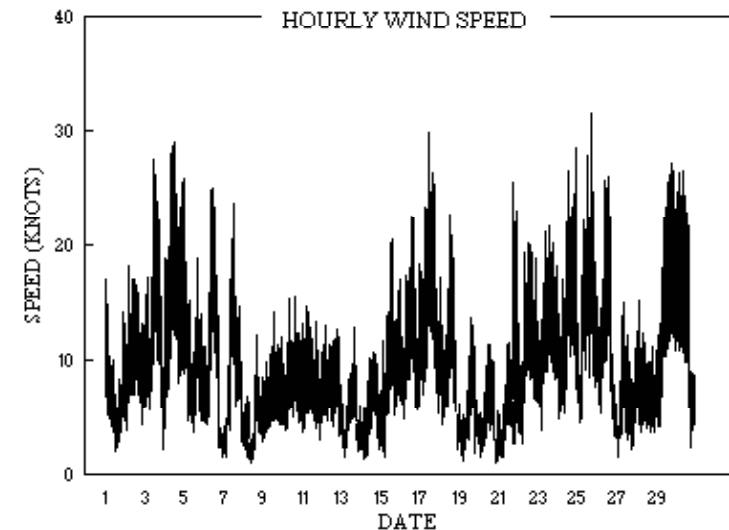
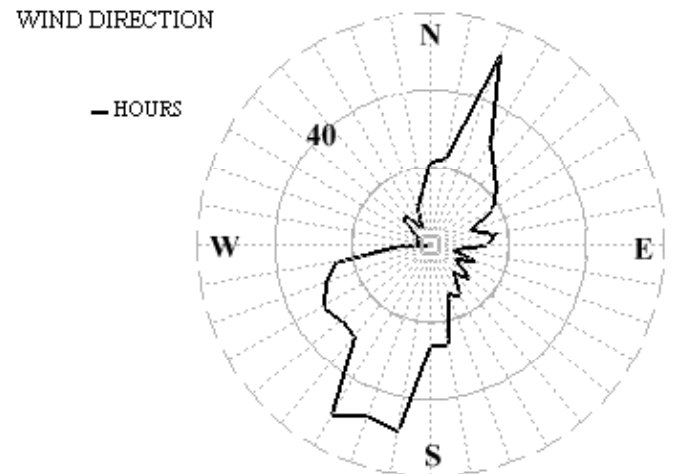
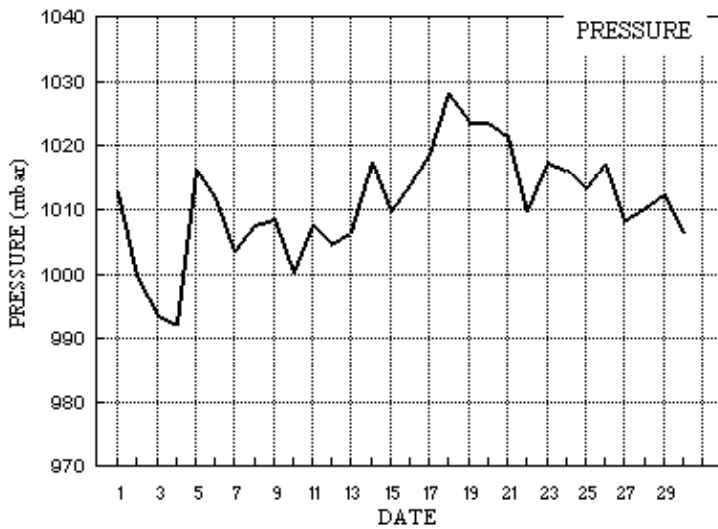
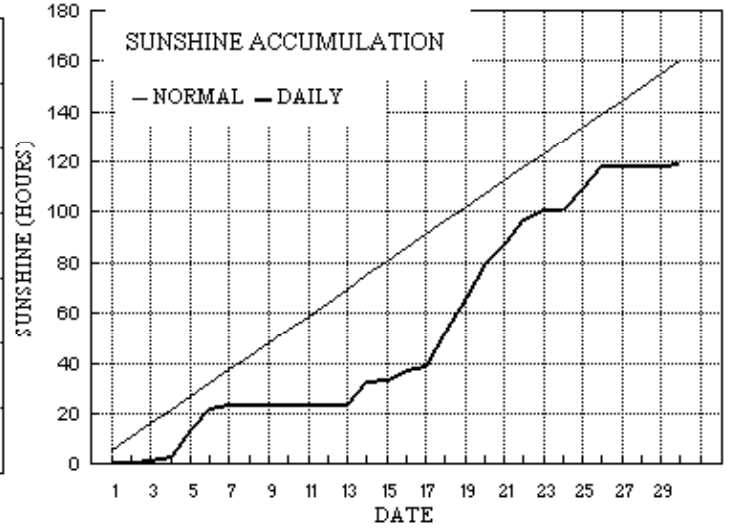
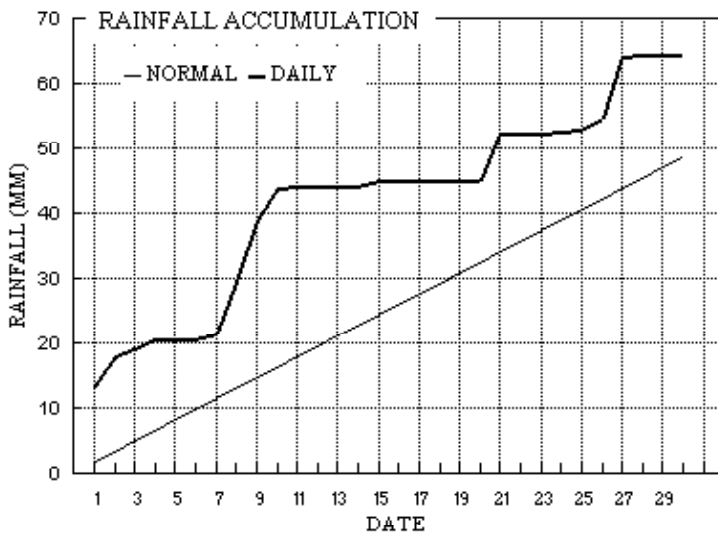
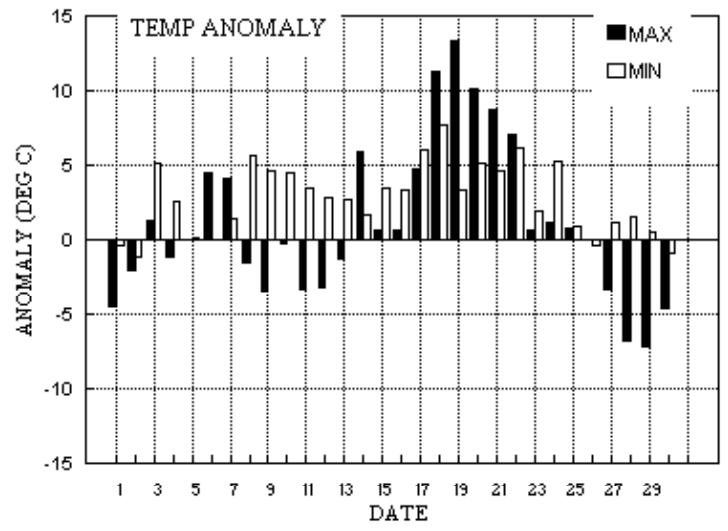
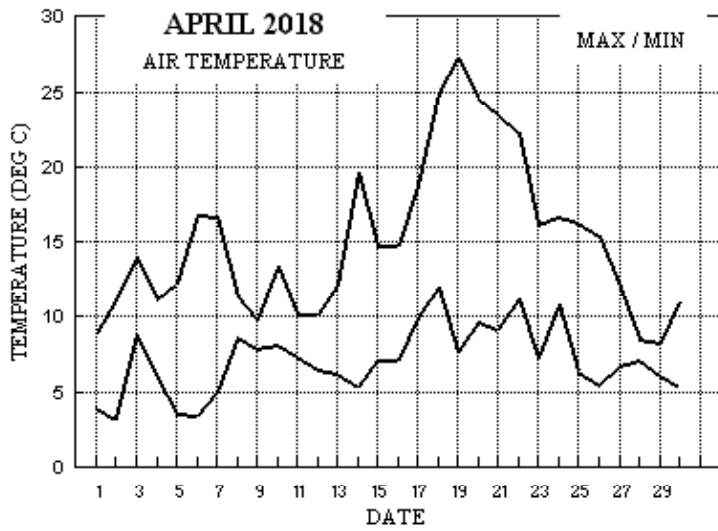
**Temperature:** This has been an unusually mild April, especially by night, with several temperature records broken. The daily mean ranks 4<sup>th</sup> highest since before 1882, though 2011 and 2007 were warmer, and before that, 1943. Although the mean maximum ranks only 23<sup>rd</sup> highest, and was 4.4° below the record set in 2011, the mean minimum is a new record, 0.4° above the previous highest in 1961. The highest max of 27.2° is 6.5° above the median and is a new April record. The lowest max is 0.3° above the median while the highest min is 2.0° above its median. The lowest min of 3.1° is 5.0° above the median and also a new April record. The mean grass min is a new record high for the past 39 years, 1.0° above the previous highest in 1993. The lowest grass min is also a new record high. The mean earth temperature at 30 cm depth is above average, but is below average at 1 m depth. Anomalies for daily max up to the 16<sup>th</sup> fluctuated between +4° on the 6<sup>th</sup> and 7<sup>th</sup> also +6° on the 14<sup>th</sup> and -4° on the 1<sup>st</sup> and 9<sup>th</sup>. A hot spell from the 17<sup>th</sup> to the 22<sup>nd</sup> saw anomalies above +10° from the 18<sup>th</sup> to 20<sup>th</sup>, reaching +13.4° on the 19<sup>th</sup>. It became much cooler on the 27<sup>th</sup> with anomalies of -7° on the 28<sup>th</sup> and 29<sup>th</sup>. For daily min anomalies just dipped below zero on a few days, otherwise were above +5° on the 3<sup>rd</sup>, 8<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 20<sup>th</sup>, 22<sup>nd</sup> and 24<sup>th</sup>, reaching +7.7° on the 18<sup>th</sup>. **Rainfall:** This month's rain is 33 % above average, but there have been 5 wetter Aprils this millennium, the last in 2014. The highest daily fall is slightly above average. The number of days with =>5 mm is 3 above average, but the number of dry days is average. The duration of rain is 180 % of average and highest since 2012. Despite this, there was some dry weather, and from the 11<sup>th</sup> to the 20<sup>th</sup> only 0.9 mm fell, with a 5 day dry spell ending on the 20<sup>th</sup>. Thunder occurred in the evening of the 21<sup>st</sup> and overnight on the 22<sup>nd</sup>. Daily rainfall accumulation compared with normal was already 14 mm in surplus by the 4<sup>th</sup>, and this increased to 29 mm by the 10<sup>th</sup>. After the drier spell, the surplus had reduced to 12 mm by the 20<sup>th</sup>, but further wet days increased this to 21 mm by the 27<sup>th</sup>. **Sunshine:** This has been a very dull April, the total being 42 hours below average. In the past 43 years only 2001, 1998 and 1978 have had a duller April. The number of days with nil sun is highest in the past 40 years and is 6 above average. Despite the overall gloom, there was a sunny spell from the 18<sup>th</sup> to the 22<sup>nd</sup>, with over 90 % of the maximum on the 18<sup>th</sup> to 20<sup>th</sup>. Other sunny days, with over 60 % of the maximum, were the 5<sup>th</sup>, 6<sup>th</sup>, 14<sup>th</sup>, 25<sup>th</sup> and 26<sup>th</sup>. Daily sunshine accumulation compared with normal was already 20 hours in deficit by the 4<sup>th</sup>, increasing to 53 hours by the 17<sup>th</sup>, but dropping back to 20 hours after the sunny spell, only to increase to 41 hours by the 30<sup>th</sup>. Overall there were 18 days with <3 hours, 10 with =>6 hours, 6 with =>9 hours and 3 with =>12 hours. **Wind:** The mean speed is 0.3 mph above average and highest since 2013, but the highest gust is 4 mph below average. The duration of calm is lowest for at least 12 years. Daily directions were N'ly on the 1<sup>st</sup>, S'ly from the 2<sup>nd</sup> to 7<sup>th</sup>, backing NE'ly on the 8<sup>th</sup>, were N'ly on the 12<sup>th</sup> becoming S'ly for the 14<sup>th</sup> to 18<sup>th</sup>, veering to NW on 20<sup>th</sup> and becoming SW'ly from 22<sup>nd</sup> to 26<sup>th</sup>, backing N'ly on the 28<sup>th</sup>. Speeds were mod or fresh until the 7<sup>th</sup>, then light until the 14<sup>th</sup>, mod or fresh until the 18<sup>th</sup>, light or mod to the 23<sup>rd</sup>, then mainly fresh to the 30<sup>th</sup>, except light on the 27<sup>th</sup> and 28<sup>th</sup>.

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

From the 1 <sup>st</sup> to the 10 <sup>th</sup>				From the 11 <sup>th</sup> to the 20 <sup>th</sup>				From the 21 <sup>st</sup> to the 30 <sup>th</sup>			
-0.3°	+2.2°	272%	45%	+3.9°	+3.9°	6%	105%	-0.3°	+2.1°	123%	75%

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

# Wokingham climatological graphs for April 2018



Month: APRIL 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 mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff	Rain HH hrs						
1	8.9	3.9	13.3	2.9	7.4	7.5	0.8	0.0	1012.7	0 0 0 0	0 0 0 0	0 0 0 0	358	1.4	4.4	287	17	0121	310	7	01	10.1	
2	11.1	3.1	4.5	3.2	7.5	7.5	0.0	0.0	999.7	0 0 0 0	0 0 0 0	0 0 0 0	171	6.1	6.6	172	18	0555	182	8	14	4.1	
3	14.0	8.8	1.4	8.3	7.8	7.6	1.1	0.0	993.5	0 0 0 0	0 0 0 0	0 0 0 0	197	7.7	8.0	193	28	1149	208	13	12	2.1	
4	11.2	5.8	1.3	-0.7	8.3	7.6	1.0	0.0	992.1	0 1 0 0	0 0 0 0	0 0 0 0	194	8.1	9.9	191	29	1306	182	13	10	1.7	
5	12.2	3.5	0.0	-0.3	8.4	7.7	10.7	0.0	1016.1	0 1 0 0	0 0 0 0	0 0 0 0	243	2.6	6.5	299	26	0130	289	12	01	0.0	
6	16.8	3.4	0.0	-1.2	8.4	7.8	8.9	0.0	1011.7	0 1 0 0	0 0 0 0	0 0 0 0	145	5.9	6.9	143	25	1211	149	14	09	0.0	
7	16.6	4.9	0.8	0.7	8.6	7.9	1.1	0.0	1003.5	0 0 0 0	0 0 0 0	0 0 0 0	175	4.2	5.8	189	24	1214	190	12	12	2.9	
8	11.3	8.7	8.1	7.1	9.0	8.0	0.0	0.0	1007.7	0 0 0 0	0 0 0 0	0 0 0 0	18	1.1	2.7	24	12	1719	21	6	17	14.2	
9	9.8	7.9	9.4	7.8	9.2	8.1	0.0	0.0	1008.6	0 0 0 0	0 0 0 0	0 0 0 0	53	4.1	4.6	69	14	1343	64	6	12	17.9	
10	13.3	8.1	5.1	8.2	9.3	8.3	0.1	0.0	1000.2	0 0 0 0	0 0 0 0	0 0 0 0	46	5.1	5.1	28	16	1521	36	7	15	6.2	
11	10.2	7.3	0.1	8.7	9.6	8.4	0.0	0.0	1007.7	0 0 0 0	0 0 0 0	0 0 0 0	30	5.0	5.0	23	15	0626	30	7	08	0.6	
12	10.2	6.5	0.1	7.0	9.7	8.5	0.0	0.0	1004.6	0 0 0 0	0 0 0 0	0 0 0 0	9	5.2	5.2	11	13	0456	12	7	04	0.8	
13	12.1	6.2	0.0	6.4	9.6	8.6	0.1	0.0	1006.5	0 0 0 0	0 0 0 0	0 0 0 0	234	2.5	3.6	237	13	1729	239	6	17	0.0	
14	19.6	5.3	tr	-0.6	9.7	8.7	8.9	0.0	1017.5	0 1 0 0	0 0 0 0	0 0 0 0	166	2.7	3.3	173	11	1537	161	6	18	0.0	
15	14.8	7.1	0.7	2.1	10.2	8.8	0.7	0.0	1009.8	0 0 0 0	0 0 0 0	0 0 0 0	172	4.9	5.6	178	21	1426	173	10	14	0.8	
16	14.8	7.1	0.0	2.7	10.2	8.9	4.1	0.0	1013.8	0 0 0 0	0 0 0 0	0 0 0 0	204	7.4	7.8	184	23	1443	205	12	14	0.0	
17	18.7	9.9	0.0	7.5	10.3	9.0	1.5	0.0	1018.6	0 0 0 0	0 0 0 0	0 0 0 0	195	9.8	9.9	212	30	1156	204	15	11	0.0	
18	25.0	11.9	0.0	7.2	10.6	9.1	13.4	0.0	1028.1	0 0 0 0	0 0 0 0	0 0 0 0	162	5.4	6.6	130	23	1256	154	11	13	0.0	
19	27.2	7.6	0.0	2.4	11.4	9.3	13.7	0.0	1023.6	0 0 0 0	0 0 0 0	0 0 0 0	230	0.9	3.4	266	14	1528	210	7	17	0.0	
20	24.5	9.6	0.0	3.8	12.3	9.4	13.6	0.0	1023.8	0 0 0 0	0 0 0 0	0 0 0 0	316	1.9	3.1	340	12	1322	9	5	18	0.0	
21	23.5	9.2	7.5	3.7	12.8	9.7	7.7	0.0	1021.6	0 0 0 0	1 0 0 0	0 0 0 0	132	2.4	3.9	198	26	1952	164	8	19	1.6	
22	22.3	11.2	0.0	6.8	13.1	9.9	9.5	0.0	1009.7	0 0 0 0	1 0 0 0	0 0 0 0	231	5.3	7.2	244	20	1306	213	10	09	0.0	
23	16.1	7.2	tr	3.2	13.2	10.2	3.8	0.0	1017.4	0 0 0 0	0 0 0 0	0 0 0 0	235	8.3	8.4	216	22	1513	242	11	14	0.0	
24	16.6	10.8	0.4	8.9	13.0	10.4	0.1	0.0	1016.3	0 0 0 0	0 0 0 0	0 0 0 0	223	8.6	8.9	245	29	2258	208	13	13	0.6	
25	16.3	6.4	0.1	2.3	12.7	10.6	8.8	0.0	1013.3	0 0 0 0	0 0 0 0	0 0 0 0	243	9.0	9.2	251	32	1856	251	14	18	0.1	
26	15.4	5.5	1.9	2.3	12.5	10.7	9.0	0.0	1017.0	0 0 0 0	0 0 0 0	0 0 0 0	236	7.7	8.1	282	26	1434	255	12	15	2.2	
27	12.0	6.7	9.5	4.9	12.5	10.8	0.0	0.0	1008.1	0 0 0 0	0 0 0 0	0 0 0 0	81	2.2	3.9	64	15	1017	83	6	10	7.2	
28	8.5	7.1	0.1	7.0	12.3	10.8	0.0	0.0	1010.2	0 0 0 0	0 0 0 0	0 0 0 0	357	4.4	4.6	22	15	0457	354	6	02	0.4	
29	8.3	6.1	tr	5.9	11.8	10.9	0.0	0.0	1012.3	0 0 0 0	0 0 0 0	0 0 0 0	17	9.2	9.2	21	27	1956	13	13	22	0.0	
30	11.1	5.3	0.0	5.2	11.3	10.9	0.7	0.0	1006.2	0 0 0 0	0 0 0 0	0 0 0 0	347	8.0	9.0	7	27	0906	6	13	03	0.0	
Total			64.3				119.3	0.0															73.5
Mean	15.1	7.1		4.4	10.4	9.1	3.98	0.0	1011.1					208	1.7	6.2							
Anom	+1.1	+2.7	133%	+3.7	+0.5	-0.1	74%																

Daily mean 11.1 Pressure, abs highest = 1028.2 on 18 Correction: Rainfall duration for March 2018 = 114.2 hours  
 Anom +1.9 Pressure, abs lowest = 991.3 on 4

Number of days with:  
 Air frost = 0 Ground frost = 4 Nil sun = 8  
 Snow falling = 0 Snow lying = 0 Thunder = 2  
 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 APRIL 2018

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChs	NChs	Date	Remarks
1	80	7	31	05	09	5.4	1.1	74	4.1	1012.7	2	016	01	2	2	6	8	4	0	6	82818	85638		1	4Ci75 Cu med	
2	65	8	18	09	17	8.9	7.2	89	6.4	999.7	7	014	60	6	2	7	5	3	2	/	81709	86650	88458	2	2Sc35	
3	58	8	20	08	17	11.1	9.5	90	7.5	993.5	3	008	60	6	2	8	5	4	/	/	85710	87615	88625	3		
4	65	7	18	14	28	9.9	6.2	78	6.0	992.1	5	002	25	8	1	7	8	4	/	/	86818	85640		4	Cu med	
5	89	1	32	05	12	6.8	-0.4	60	3.7	1016.1	1	040	03	0	0	1	1	5	0	1	81825			5	1Ci80 Cu hum	
6	68	8	14	10	19	10.0	3.3	63	4.8	1011.7	7	013	01	2	2	1	1	5	4	7	81825	88272		6	2Ac65 COTRA Cu hum Halo 22° part	
7	62	7	15	08	13	13.1	8.6	74	7.0	1003.5	6	006	02	2	2	1	5	7	8	8	81656	86360	87270	7	2Ac57 Ac cas	
8	28	8	03	01	03	9.3	8.4	94	6.9	1007.7	2	003	61	6	6	8	7	2	/	/	83705	88708		8		
9	35	8	04	05	10	8.2	7.8	97	6.6	1008.6	8	007	58	6	5	8	7	2	/	/	82703	86705	88708	9		
10	58	8	05	06	13	9.2	8.6	96	7.0	1000.2	3	014	10	6	5	8	7	3	/	/	87706	88708		10		
11	30	8	04	05	14	7.4	6.8	96	6.2	1007.7	3	010	10	6	2	8	6	2	/	/	88704			11		
12	20	8	01	05	10	7.1	6.4	95	6.0	1004.6	0	000	10	5	4	8	6	2	/	/	88704			12		
13	50	8	24	04	07	7.9	6.4	90	6.0	1006.5	1	017	20	5	2	8	8	3	/	/	86808	88612		13	Cu hum	
14	30	2	34	02	04	10.9	9.0	88	7.1	1017.5	1	009	28	4	0	1	1	3	0	1	81806			14	2Ci80 COTRA Cu fra	
15	50	7	17	05	14	11.7	9.8	88	7.5	1009.8	6	012	05	2	2	7	5	3	/	/	86708	87612		15		
16	68	3	23	10	18	11.8	5.9	67	5.7	1013.8	1	021	03	0	0	3	8	5	0	0	83820			16	1Sc30 Cu med	
17	84	8	18	08	18	13.9	3.9	51	5.0	1018.6	1	009	03	2	2	7	5	6	/	8	81645	87648		17	/Cs72	
18	82	3	19	05	11	18.7	12.2	66	8.7	1028.1	1	011	03	0	0	1	8	5	0	1	81825	83080		18	1Sc50 COTRA Cu fra	
19	60	2	02	02	05	20.7	11.3	55	8.2	1023.6	6	003	05	1	1	0	0	9	0	1	82081			19	COTRA	
20	61	0	30	03	07	18.9	12.4	66	8.8	1023.8	1	001	02	0	0	0	0	9	0	0				20		
21	50	1	09	03	07	17.8	12.0	69	8.6	1021.6	7	008	05	0	0	0	0	9	0	1	81081			21	COTRA	
22	59	1	22	10	18	18.5	12.7	69	9.1	1009.7	6	003	05	0	0	1	1	5	0	1	81820			22	1Ci75 Cu fra	
23	84	7	25	09	16	11.8	6.3	69	5.9	1017.4	2	013	03	2	2	4	8	5	3	2	83825	85368	87075	23	2Sc35 Cu hum Halo 22° part	
24	70	7	26	05	15	12.5	7.8	73	6.5	1016.3	0	006	15	2	2	3	8	4	7	/	81818	83656	87357	24	Cu fra jpNW	
25	80	5	26	11	21	12.6	5.5	62	5.6	1013.3	2	012	03	1	1	5	8	5	0	1	85825			25	1Sc50 1Ci75 Cu med	
26	81	5	24	11	17	10.9	4.6	65	5.2	1017.0	0	004	25	8	1	5	8	5	0	1	85825			26	1Sc40 1Ci78 COTRA Cu med	
27	68	8	07	04	11	8.7	7.2	90	6.3	1008.1	6	022	02	6	2	6	5	3	7	/	81709	86640	88358	27		
28	62	8	35	04	11	7.8	6.4	91	6.0	1010.2	2	021	21	6	5	8	7	3	/	/	85709	88712		28		
29	70	8	02	08	14	7.4	5.0	85	5.4	1012.3	7	001	60	6	2	8	5	4	/	/	87611	88620		29		
30	82	8	36	12	24	6.4	1.7	72	4.3	1006.2	0	003	02	2	2	7	5	5	2	/	87622	88550		30		

Mean vis = 19.1 km

Mean cloud = 5.9 74%

Mean wind speed = 6.6 kn

Mean gust = 13 kn

Mean TT = 11.2 °C

Mean TdTd = 7.1 °C

Mean RH = 77.4 %

Mean r = 6.4 g/kg

Mean PPP = 1011.1 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for APRIL 2018

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	84	8	36	02	06	7.6	-0.6	56	3.6	1012.5	8	008	03	2	2	7	8	6	1	/	83835	85638	88462	1		1	Cu hum		
2	62	8	19	08	17	9.8	8.1	89	6.8	995.6	8	018	02	5	2	8	5	3	/	/	86708	88612	2		2				
3	75	8	21	10	23	12.8	6.6	66	6.2	993.9	8	002	25	8	2	3	2	5	1	/	83828	88465	3		3	Cu med jpSE			
4	62	8	20	11	25	10.5	7.9	84	6.7	991.8	4	000	25	8	6	8	8	4	/	/	84812	83625	88640	4		4	Cu med jpW		
5	86	6	20	07	13	11.7	-1.1	41	3.5	1017.6	7	001	03	1	1	1	1	7	0	6	81850	86275	5		5	Cu hum U/a cont			
6	81	7	19	11	22	15.9	4.0	45	5.1	1007.0	6	013	02	2	2	1	1	7	0	8	81850	87078	6		6	2Cs73 COTRA Cu hum Halo 22° part+parhelia			
7	61	7	19	08	14	15.6	9.5	67	7.4	1004.1	2	001	02	2	2	1	1	5	7	8	81822	87272	7		7	2Ac61 COTRA Cu hum			
8	40	8	06	03	05	11.1	10.2	94	7.7	1007.8	3	301	63	6	6	7	7	2	2	/	83705	86812	88525	8		8	Cu hum		
9	17	8	08	05	10	9.4	8.9	97	7.1	1004.7	7	023	58	6	5	8	7	1	/	/	86702	88703	9		9				
10	57	8	05	04	12	12.8	10.3	85	7.9	1002.4	3	005	05	2	2	8	5	4	/	/	81712	86615	88625	10		10			
11	40	8	04	04	09	10.0	7.8	86	6.6	1007.1	8	010	05	2	2	8	5	3	/	/	86708	88612	11		11				
12	25	8	01	05	09	9.9	8.0	88	6.7	1003.0	7	008	05	2	2	8	6	2	/	/	86705	88706	12		12				
13	62	8	25	04	09	11.8	7.5	75	6.4	1009.7	3	318	02	2	2	8	8	4	/	/	83818	88630	13		13	Cu hum			
14	77	2	15	05	10	19.1	7.5	47	6.4	1014.8	8	020	02	0	0	2	2	6	0	1	82845		14		14	1Ci80 Cu med			
15	59	8	16	07	21	11.1	9.7	91	7.5	1007.2	6	014	61	6	2	6	7	4	2	/	84710	83630	88550	15		15			
16	81	7	20	11	23	14.0	3.5	49	4.8	1015.2	1	005	02	2	2	6	8	6	/	1	83840	85650	87078	16		16	Cu hum		
17	75	7	21	11	24	16.7	9.4	62	7.2	1020.6	2	009	02	2	2	7	5	6	/	/	86630	87645	17		17				
18	86	2	15	07	19	24.7	5.5	29	5.5	1025.2	8	015	02	0	0	0	0	9	0	1	82080		18		18	COTRA			
19	82	1	24	05	11	26.9	10.2	35	7.6	1021.8	8	008	03	0	0	1	1	7	0	0	81856		19		19	Cu hum			
20	75	1	32	04	11	24.1	10.7	43	7.9	1022.6	7	010	02	0	0	1	1	7	0	0	81850		20		20	Cu hum			
21	65	7	11	04	09	19.4	13.3	68	9.4	1017.9	8	018	61	6	2	7	0	8	8	/	81357	86358	87362	21		21	Ac cas		
22	65	7	25	09	20	20.2	11.7	58	8.5	1008.5	6	002	03	1	1	6	8	6	7	/	83838	84656	87361	22		22	Cu med		
23	86	8	25	12	21	15.4	5.6	52	5.6	1016.6	7	011	02	2	2	2	4	6	4	7	82638	88272	23		23	1Ac62 COTRA Halo 22°			
24	80	8	21	11	23	13.3	10.5	83	7.9	1011.8	7	026	20	5	2	8	5	4	/	/	86710	88615	24		24				
25	80	3	22	14	28	14.7	5.8	55	5.7	1012.2	7	001	15	8	1	2	9	6	6	3	81930	82835	25		25	1Sc50 1Ac63 1Ci68 jpSE vv60k ex SE			
26	86	6	26	12	26	14.8	-0.5	35	3.6	1015.7	8	009	15	1	1	2	2	7	6	1	82850	85075	26		26	1Ac60 COTRA Cu med jpS Halo 22° part			
27	65	7	08	03	06	10.2	9.3	94	7.3	1004.0	8	008	60	6	2	7	8	3	/	/	81707	87630	27		27	1Cu12 Cu hum			
28	35	8	36	04	10	7.8	6.7	93	6.1	1011.7	0	003	50	5	2	8	5	4	/	/	84710	88615	28		28				
29	82	8	02	13	26	7.1	4.2	82	5.1	1010.7	7	007	21	6	2	8	5	4	/	/	87615	88618	29		29				
30	84	8	34	10	22	9.3	0.2	53	3.9	1007.4	2	007	01	2	2	1	1	6	2	/	81840	88460	30		30	Cu hum			

Mean vis = 25.9 km  
 Mean cloud = 6.6 83%  
 Mean wind speed = 7.5 kn  
 Mean gust = 16 kn  
 Mean TT = 13.9 °C  
 Mean TdTd = 7.0 °C  
 Mean RH = 66.7 %  
 Mean r = 6.4 g/kg  
 Mean PPP = 1010.0 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-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
	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	0.32	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.13	0.15
	6	0.00	0.00	0.00	0.31	1.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	1.00
	7	0.00	0.00	0.00	0.19	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82
	8	0.01	0.00	0.00	0.08	1.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.68
	9	0.81	0.00	0.00	0.09	1.00	0.98	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.40
	10	0.01	0.00	0.14	0.00	1.00	1.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00
	11	0.00	0.00	0.22	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.03
	12	0.00	0.00	0.37	0.00	1.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.01	0.00
	13	0.00	0.00	0.00	0.03	1.00	0.93	0.22	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.07	0.00
	14	0.00	0.00	0.02	0.00	1.00	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.00	0.15
	15	0.00	0.00	0.00	0.00	1.00	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.40
	16	0.00	0.00	0.00	0.02	0.41	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.49
	17	0.00	0.00	0.16	0.11	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.18	0.01
	18	0.00	0.00	0.22	0.19	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.77	0.31	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		<b>0.82</b>	<b>0.00</b>	<b>1.13</b>	<b>1.02</b>	<b>10.72</b>	<b>8.88</b>	<b>1.05</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.09</b>	<b>8.91</b>	<b>0.70</b>	<b>4.12</b>

Hour	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	Mean
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.52	0.81	0.77	0.55	0.63	0.98	0.00	0.99	0.99	0.00	0.00	0.00	0.00	0.23
6	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.02	1.00	1.00	0.00	0.00	0.00	0.00	0.37
7	0.11	1.00	1.00	1.00	1.00	1.00	0.51	0.01	0.93	0.70	0.00	0.00	0.00	0.00	0.31
8	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.59	0.34	0.00	0.00	0.00	0.00	0.30
9	0.00	1.00	1.00	1.00	1.00	1.00	0.12	0.00	0.55	0.32	0.00	0.00	0.00	0.00	0.35
10	0.13	1.00	1.00	1.00	0.87	1.00	0.07	0.00	0.46	0.75	0.00	0.00	0.00	0.00	0.31
11	0.56	0.97	1.00	1.00	0.73	1.00	0.06	0.00	0.48	0.58	0.00	0.00	0.00	0.00	0.32
12	0.70	1.00	1.00	1.00	0.00	1.00	0.11	0.00	0.38	0.39	0.00	0.00	0.00	0.00	0.28
13	0.00	1.00	1.00	1.00	0.00	0.51	0.44	0.00	0.56	0.69	0.00	0.00	0.00	0.00	0.28
14	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.41	0.82	0.00	0.00	0.00	0.00	0.24
15	0.00	1.00	1.00	1.00	0.00	0.07	0.48	0.00	0.39	0.97	0.00	0.00	0.00	0.00	0.27
16	0.00	1.00	1.00	1.00	0.20	0.06	0.01	0.00	0.42	0.90	0.00	0.00	0.00	0.00	0.21
17	0.00	1.00	1.00	1.00	0.57	0.22	0.07	0.00	0.68	0.57	0.00	0.00	0.00	0.00	0.22
18	0.00	0.90	0.88	0.87	0.78	0.92	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.64	0.26
19	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	<b>1.49</b>	<b>13.39</b>	<b>13.68</b>	<b>13.64</b>	<b>7.69</b>	<b>9.48</b>	<b>3.84</b>	<b>0.03</b>	<b>8.80</b>	<b>9.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.67</b>	<b>119.18</b>

APRIL 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	5.35	8.3	1531	3.0	2303	73.9	95.6	2354	53.6	1503	0.9	4.1	4.8	2022	3.4	1155	1011.11	1013.4	1102	1007.6	2359	6.4
2	8.57	11.2	1709	3.4	0	92.3	96.9	218	85.9	1742	7.4	6.5	7.3	2257	4.6	0	998.34	1007.7	0	994.0	2350	7.0
3	10.59	14.1	1144	5.7	2337	84.6	96.5	2348	61.3	1438	8.0	6.8	8.2	1052	5.5	2337	993.96	995.8	2044	992.5	446	2.5
4	9.04	11.3	945	5.8	3	85.1	96.6	14	70.9	1010	6.6	6.2	7.1	1608	4.6	2357	994.11	1002.6	2359	991.3	1126	2.3
5	7.09	12.3	1309	3.3	2318	63.2	85.7	2320	32.1	1236	0.1	3.8	4.7	0	2.6	1228	1014.74	1018.5	1958	1002.5	0	0.0
6	9.64	16.9	1436	3.3	243	69.3	92.4	2356	41.7	1352	3.8	5.0	5.9	1947	4.2	20	1010.13	1017.2	1	1006.5	1612	0.0
7	11.07	16.7	1053	4.8	155	80.9	95.3	354	62.2	1014	7.7	6.6	8.0	1345	5.0	155	1005.25	1008.0	2346	1003.3	1056	0.0
8	9.71	11.4	1436	8.6	735	94.2	96.8	2301	90.6	332	8.8	7.1	8.0	1541	6.5	416	1008.21	1010.4	2344	1007.0	305	5.8
9	8.76	9.9	1637	7.7	710	97.2	98.2	2359	95.7	250	8.3	6.9	7.4	1637	6.4	710	1006.18	1010.2	56	1000.3	2355	8.9
10	10.34	13.5	1529	8.1	342	93.0	98.5	726	80.4	1524	9.2	7.3	8.2	1336	6.6	419	1001.90	1006.4	2337	998.5	503	2.5
11	8.89	11.0	13	7.0	947	93.8	97.6	652	84.3	1505	7.9	6.7	7.7	0	5.9	1001	1006.94	1008.3	1108	1005.5	12	4.2
12	7.74	10.3	1407	6.4	2100	94.0	97.7	633	86.1	1408	6.8	6.2	7.0	1359	5.6	2105	1004.01	1006.0	1	1002.5	1647	0.1
13	8.74	12.1	1357	6.0	211	88.0	97.1	249	71.7	1521	6.8	6.2	7.1	1356	5.6	455	1008.22	1014.9	2359	1003.2	24	0.2
14	12.07	19.8	1510	5.2	547	74.7	98.4	831	41.7	1515	7.1	6.3	8.0	1329	5.3	547	1015.73	1017.7	849	1013.7	2355	0.0
15	10.76	14.9	1232	7.0	502	86.0	97.3	557	59.7	1233	8.4	6.9	7.8	1743	6.0	502	1009.18	1013.8	0	1006.4	1744	0.8
16	10.96	14.9	1550	7.0	524	68.6	93.1	549	44.3	1551	5.1	5.5	6.7	810	4.5	1647	1013.91	1017.1	2350	1008.4	2	0.0
17	13.62	17.0	1516	9.8	459	66.5	83.1	2333	46.4	914	7.4	6.4	8.3	1957	4.7	914	1019.92	1024.9	2355	1016.3	304	0.0
18	17.96	25.1	1521	10.3	2357	59.1	87.7	2358	25.2	1409	8.9	7.1	9.8	1136	4.7	1409	1025.85	1028.2	917	1023.9	1958	0.0
19	18.16	27.4	1450	7.5	453	62.5	96.8	606	28.7	1546	9.5	7.3	11.2	1022	5.7	1756	1023.09	1024.6	0	1021.5	1533	0.0
20	17.04	24.6	1555	9.5	409	69.2	96.3	533	37.0	1538	10.7	7.9	10.6	1037	6.8	409	1023.17	1024.1	1028	1022.0	1804	0.0
21	16.51	23.7	1128	9.1	525	73.5	96.0	603	41.1	1128	11.2	8.3	10.7	1617	6.7	525	1019.15	1023.2	4	1014.1	2359	5.3
22	15.54	22.5	1319	8.2	2358	74.5	98.6	551	42.4	1603	10.6	8.0	10.3	1230	5.6	2302	1010.65	1014.5	2353	1008.1	1318	1.9
23	11.66	16.2	1346	7.2	509	71.5	90.4	511	49.3	1528	6.5	6.0	6.8	721	5.2	1130	1016.19	1018.0	1145	1014.3	1	0.0
24	12.59	16.7	1313	9.8	2335	79.3	93.2	2235	46.6	1304	9.0	7.1	8.4	1625	5.4	1308	1013.07	1016.5	809	1008.2	2115	0.4
25	10.54	16.4	1151	6.3	459	71.6	94.8	500	43.8	1152	5.3	5.6	7.0	1144	4.4	1747	1012.53	1015.2	2358	1009.6	8	0.2
26	10.15	15.6	1407	5.4	448	68.3	90.7	514	31.6	1505	4.0	5.1	6.6	1006	3.3	1505	1015.95	1017.5	947	1014.2	2353	0.1
27	8.97	12.1	1200	6.6	639	91.9	97.6	2148	74.3	1200	7.7	6.6	7.5	1503	5.6	25	1007.16	1014.3	2	1003.8	1741	10.0
28	7.78	9.0	0	6.8	2351	91.9	97.4	0	85.0	1708	6.5	6.0	7.0	0	5.6	2235	1010.31	1013.3	2316	1005.0	12	1.6
29	6.77	8.5	1103	6.0	512	84.5	92.6	350	75.7	2110	4.3	5.2	5.8	1101	4.5	2002	1011.19	1013.1	8	1008.2	2304	0.0
30	7.13	9.5	1538	5.1	2350	66.1	79.3	5	46.6	1528	1.1	4.1	4.7	5	3.4	1528	1007.39	1009.8	2359	1005.5	524	0.0

Total	Mean	Max	Min	6.66	79.0	94.27	57.85	6.86	6.28	7.62	5.12	1010.58	1014.17	1007.27	60.2
	10.79	15.09													
	18.16	27.36		10.32	97.2	98.60	95.70	11.23	8.25	11.17	6.82	1025.85	1028.24	1023.92	
	5.35	8.34		2.98	59.1	79.30	25.15	0.11	3.83	4.73	2.55	993.96	995.81	991.29	

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, 1<sup>st</sup> January to 31<sup>st</sup> 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  $-0.1^{\circ}\text{C}$  or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is  $-0.1^{\circ}\text{C}$  or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below  $0.0^{\circ}\text{C}$ , 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.