

# 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

MAY 2017

Temperature (°C)		Anomaly	Rank in the past 136 years				
Mean maximum	19.3	+1.8	13 <sup>th</sup> highest				
Mean minimum	8.9	+1.4	3 <sup>rd</sup> highest				
Daily mean	14.1	+1.6	5 <sup>th</sup> highest				
Highest maximum	27.6	on 26 <sup>th</sup>	Lowest maximum	11.7	on 3 <sup>rd</sup>		
Highest minimum	14.6	on 17 <sup>th</sup>	Lowest minimum	0.1	on 10 <sup>th</sup>		
Mean grass minimum	5.0	+0.7	Lowest grass minimum	-5.7	On 10 <sup>th</sup>		
Mean earth @30 cm	14.1	+0.6	Earth @100 cm	12.0			
Frost duration (hrs)	0.0		Rain duration (hrs)	49.8			
Rainfall total (mm)	66.2	131%	33 <sup>rd</sup> highest				
Highest daily fall	22.8	on 17 <sup>th</sup>					
Number of: Dry days (<0.2mm)	19	Wet days (>0.9mm)	9	days ≥5mm	5		
Sunshine total (hrs)	161.2	Daily mean	5.20	85%	Sunniest day	15.4 on 26 <sup>th</sup>	
N° days with: Air frost	0	Ground frost	3	Snow falling	0	Snow lying	0
Thunder	3	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0
						Nil sun	4
Pressure MSL : Mean @09 GMT, mbar	1016.9	+1.0	Highest	1028.4	on 8 <sup>th</sup>	Lowest	993.1 on 11 <sup>th</sup>
Relative humidity : Mean (%)	77.3	Lowest	31	on 10 <sup>th</sup>	Water vapour (g/kg), mean at 09 and 15 GMT	7.7,	7.5
Mean wind speed (mph)	6.1	Windy day	9.3	on 5 <sup>th</sup>	Max gust	32	on 5 <sup>th</sup>
Wind direction (days)	N 3	NE 6	E 5	SE 0	S 6	SW 9	W 1
						NW	1
Least windy day (mph)	3.1	on 18 <sup>th</sup>	Calm; less than 0.5 mph (minutes)				426

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

Notes:

### Wet and Dull but Very Mild with a Hot Spell.

**Temperature:** The mean this May is well above average, and since 1976 only 2008, 1992 and 1989 have been milder, although 1998 was equal to this month's. In the longer term, since 1882, 1964 is the only other milder May, making this the 5<sup>th</sup> highest on record. In terms of the mean minimum, only 1999 and 1964 were higher, though for the mean maximum 12 Mays have exceeded this year's value. The highest max is 2.2° above the median, and the lowest max is 0.7° above its median. The highest min is 2.1° above the median, and is highest since 2001, but the lowest min is 0.4° below its median. The mean grass min, while 0.7° above average, was exceeded as recently as 2012, but the lowest grass min is 1.8° below the 38 year average. Earth temperatures at 30 cm depth is near half a degree above average, but at 1 m depth is close to average. There was no air frost this May, although 29 of the past 42 Mays have had at least one, and in 1996 there were 5. Anomalies for daily max were variable up to the 20<sup>th</sup>, with values over +4° on the 11<sup>th</sup> and 16<sup>th</sup>, and over -4° on the 3<sup>rd</sup> and 8<sup>th</sup>. From the 21<sup>st</sup> on there was a hot spell, with anomalies over +4° from the 22<sup>nd</sup> to the 28<sup>th</sup>, reaching +9.6° on the 26<sup>th</sup>. Anomalies for daily min were near normal up to the 9<sup>th</sup>, then after 2 cold nights, with an anomaly of -6.5° on the 10<sup>th</sup> there was a series of mild nights with anomalies over +4° from the 12<sup>th</sup> to the 17<sup>th</sup>, also on the 27<sup>th</sup> and 30<sup>th</sup>, reaching +7.2° on the 17<sup>th</sup>. **Rainfall:** A total for this May of 131 % of average belies the fact that much of the month was dry, 19 dry days in all, and 2 dry spells, the first of 7 days ended on the 10<sup>th</sup> and the second of 5 days ended on the 25<sup>th</sup>. Also, up to the 10<sup>th</sup> only 0.3 mm was recorded. It was from the 11<sup>th</sup> to the 20<sup>th</sup> when the majority of the month's rain fell, in which there was a very wet spell with 44.6 mm in the 3 days to the 18<sup>th</sup>, two thirds of the month's total. Looking at the larger picture, the month's total is highest for May since 2008, but in the past 42 years, 13 have had wetter Mays than this, and May 1979 received 53 mm more than this year's. The rainfall duration is 129% of average. The highest rainfall rate was 21 mm/hr at 1155 GMT on the 17<sup>th</sup>. Thunder occurred on the 27<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup>. **Sunshine:** This has been a dull May overall, with a sunshine total 15 % below normal. The daily mean of 5.20 hours is lowest for May since 2006. Sunny days were an exception up to the 20<sup>th</sup>, just 4 having over 50 % of the maximum, and 9 having less than 20 %, whereas the final 11 days saw 5 with over 50 % and 2 with less than 20 %. Sunshine accumulation compared with normal was in deficit of 16 hours by the 4<sup>th</sup>, and despite the odd sunny day, this had increased to 45 hours by the 19<sup>th</sup>. A sunny period then followed, reducing the deficit to 15 hours by the 26<sup>th</sup>, but further dull days increased this again, reaching 28 hours by the 31<sup>st</sup>. **Wind:** The mean wind speed this May is 0.5 mph below average, and lowest since 2010. The highest gust of 32 mph is 7 mph below average. Daily mean winds were between N and E until the 11<sup>th</sup>, then between S and W up to the 23<sup>rd</sup>, veering N then S by the 27<sup>th</sup>, temporarily backing NE on the 28<sup>th</sup>. Speeds were light or moderate throughout, except for the 15<sup>th</sup> and 27<sup>th</sup> when they were fresh, and the 24<sup>th</sup> when the speed was very light.

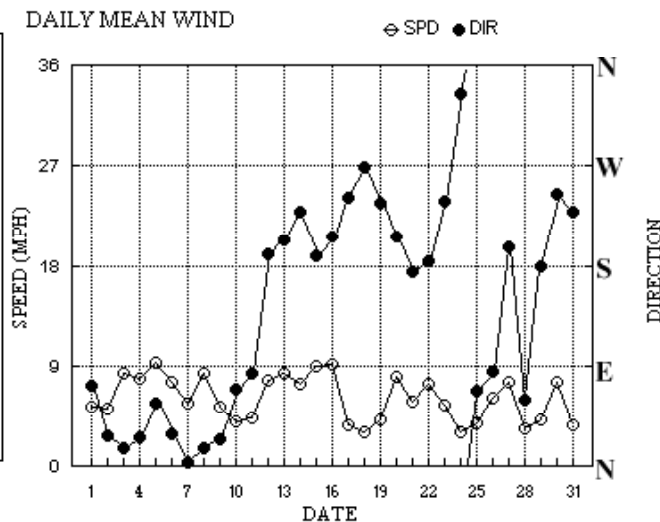
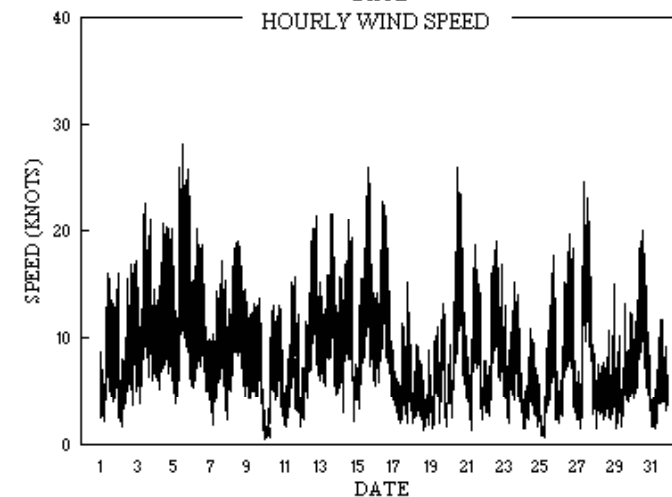
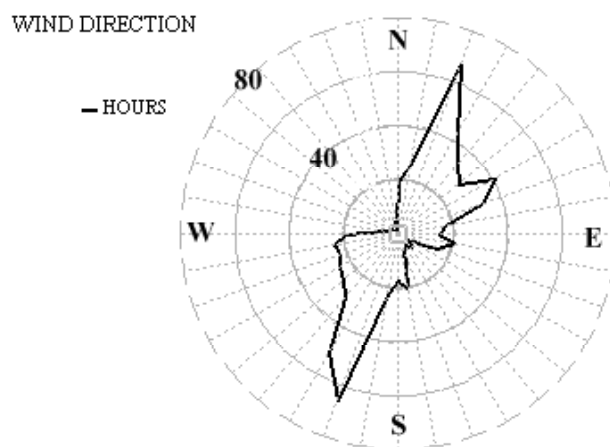
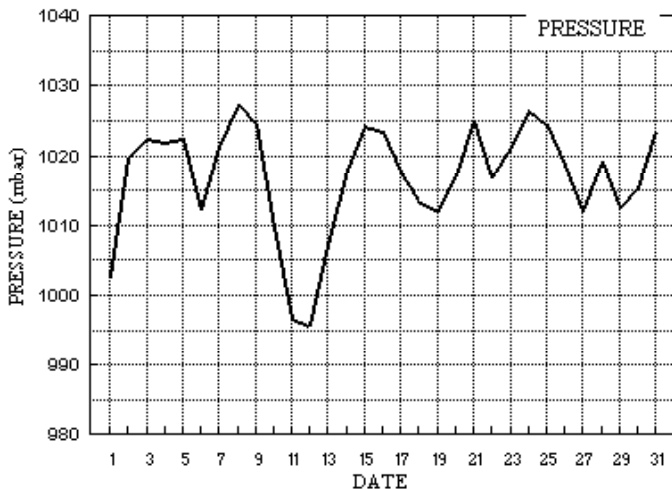
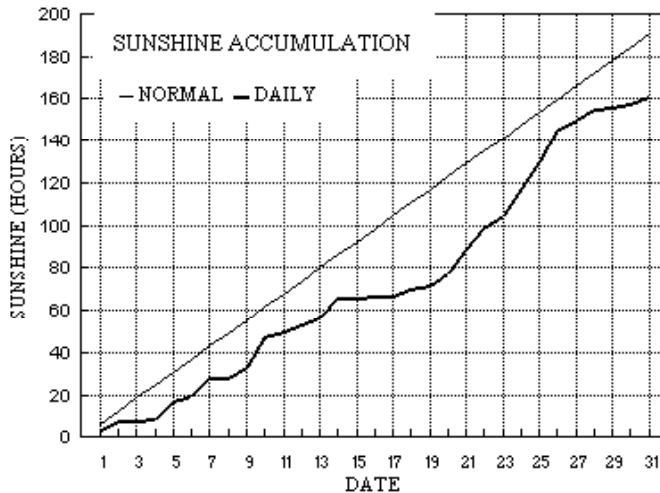
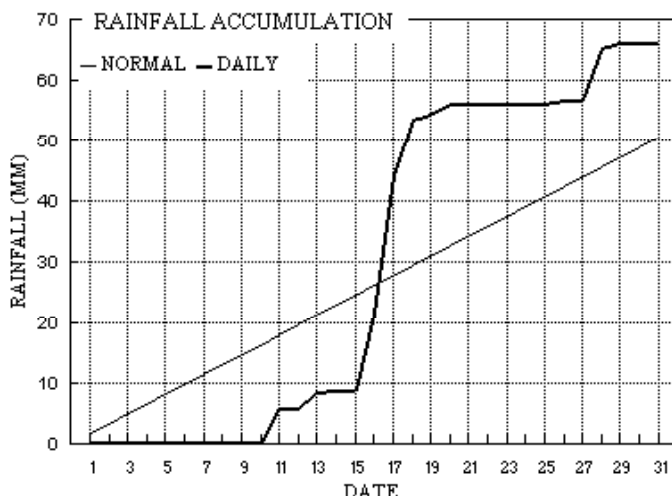
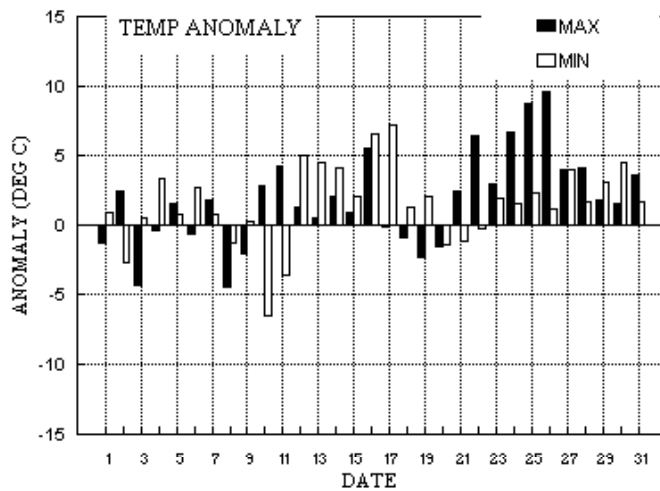
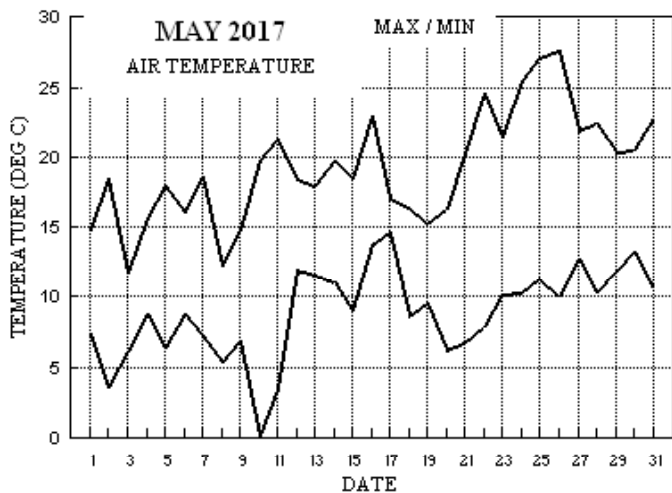
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

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 31 <sup>st</sup>			
-0.5°	-0.1°	2%	77%	+0.9°	+2.8°	343%	49%	+4.3°	+1.7°	56%	124%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

# Wokingham climatological graphs for May 2017



Daily meteorological data.

Emmbrook, WOKINGHAM, Berkshire.

Month: MAY 2017

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	14.7	7.3	0.1	2.3	11.2	10.6	3.4	0.0	1002.5	0 0 0 0	0 0 0 0	0 0 0 0	73 4.2 4.6	72 16 2304	61 7 09	0.1	
2	18.4	3.5	tr	-2.8	11.4	10.6	4.1	0.0	1019.6	0 1 0 0	0 0 0 0	0 0 0 0	28 4.3 4.5	20 17 2218	20 8 21	0.0	
3	11.7	6.1	0.2	1.9	11.8	10.7	0.0	0.0	1022.5	0 0 0 0	0 0 0 0	0 0 0 0	17 7.3 7.3	22 23 1013	20 11 11	0.2	
4	15.6	8.8	0.0	7.8	11.6	10.7	0.8	0.0	1022.0	0 0 0 0	0 0 0 0	0 0 0 0	27 6.8 6.9	21 21 1000	26 9 15	0.0	
5	18.0	6.3	tr	1.0	11.8	10.8	9.0	0.0	1022.4	0 0 0 0	0 0 0 0	0 0 0 0	56 7.9 8.1	58 28 1221	63 12 12	0.0	
6	16.0	8.8	tr	7.0	12.4	10.8	2.0	0.0	1012.3	0 0 0 0	0 0 0 0	0 0 0 0	29 6.1 6.5	52 20 0651	20 9 13	0.0	
7	18.6	7.2	0.0	2.7	12.6	10.9	8.7	0.0	1021.3	0 0 0 0	0 0 0 0	0 0 0 0	4 4.8 4.9	332 17 1454	13 8 14	0.0	
8	12.2	5.3	0.0	0.5	12.8	11.0	0.0	0.0	1027.3	0 0 0 0	0 0 0 0	0 0 0 0	16 7.2 7.2	23 19 1244	13 9 08	0.0	
9	14.7	6.9	0.0	5.1	12.4	11.1	5.1	0.0	1024.6	0 0 0 0	0 0 0 0	0 0 0 0	24 4.5 4.6	18 14 1522	19 7 17	0.0	
10	19.7	0.1	tr	-5.7	12.0	11.2	14.1	0.0	1009.8	0 1 0 0	0 0 0 0	0 0 0 0	69 3.1 3.6	64 13 1052	101 6 17	0.0	
11	21.3	3.4	5.5	-3.1	12.5	11.2	2.5	0.0	996.8	0 1 0 0	0 0 0 0	0 0 0 0	84 2.9 3.8	156 16 1409	138 8 14	9.0	
12	18.5	12.0	tr	11.5	13.1	11.3	3.3	0.0	995.7	0 0 0 0	0 0 0 0	0 0 0 0	191 6.0 6.7	203 22 1825	204 11 16	0.1	
13	18.0	11.6	2.7	9.3	13.4	11.4	3.5	0.0	1007.1	0 0 0 0	0 0 0 0	0 0 0 0	204 6.8 7.2	235 22 1456	207 11 15	1.9	
14	19.7	11.0	0.3	9.2	13.4	11.5	9.4	0.0	1017.8	0 0 0 0	0 0 0 0	0 0 0 0	229 5.4 6.4	265 21 1236	239 10 12	0.8	
15	18.5	9.0	tr	3.4	13.9	11.6	0.0	0.0	1024.2	0 0 0 0	0 0 0 0	0 0 0 0	189 7.6 7.8	204 26 1553	196 12 13	0.1	
16	22.9	13.7	12.6	13.7	13.8	11.8	0.6	0.0	1023.5	0 0 0 0	0 0 0 0	0 0 0 0	206 7.8 7.9	229 23 1048	209 13 12	8.1	
17	17.0	14.6	22.8	14.4	14.6	11.9	0.0	0.0	1017.6	0 0 0 0	0 0 0 0	0 0 0 0	242 0.8 3.2	297 15 1949	315 6 20	9.9	
18	16.4	8.7	9.2	4.9	14.4	12.1	3.4	0.0	1013.6	0 0 0 0	0 0 0 0	0 0 0 0	269 1.6 2.7	322 9 0653	284 4 07	13.6	
19	15.3	9.5	1.0	9.3	14.5	12.2	1.6	0.0	1011.9	0 0 0 0	0 0 0 0	0 0 0 0	236 2.2 3.7	193 13 1730	206 8 17	0.9	
20	16.3	6.2	1.8	2.0	14.3	12.4	6.0	0.0	1017.1	0 0 0 0	0 0 0 0	0 0 0 0	206 7.0 7.0	221 26 1124	205 12 16	0.9	
21	20.2	6.7	0.0	1.8	14.1	12.5	10.9	0.0	1025.1	0 0 0 0	0 0 0 0	0 0 0 0	174 4.5 5.1	170 19 1054	185 8 09	0.0	
22	24.5	7.9	0.0	2.9	14.6	12.5	10.6	0.0	1016.8	0 0 0 0	0 0 0 0	0 0 0 0	184 4.7 6.4	219 19 1505	197 10 14	0.0	
23	21.4	10.2	tr	5.7	15.4	12.6	5.6	0.0	1021.1	0 0 0 0	0 0 0 0	0 0 0 0	239 4.7 4.8	254 15 1555	242 7 17	0.0	
24	25.4	10.3	0.0	5.1	15.4	12.7	12.5	0.0	1026.5	0 0 0 0	0 0 0 0	0 0 0 0	334 1.0 2.7	10 11 1204	342 4 11	0.0	
25	27.1	11.3	0.0	6.8	16.4	12.9	12.8	0.0	1024.6	0 0 0 0	0 0 0 0	0 0 0 0	68 2.9 3.4	50 18 1803	62 7 18	0.0	
26	27.6	10.0	0.4	4.3	16.9	13.1	15.4	0.0	1018.6	0 0 0 0	0 0 0 0	0 0 0 0	85 4.8 5.3	70 20 1534	89 8 15	0.4	
27	21.9	12.7	0.0	7.0	17.5	13.3	4.8	0.0	1011.9	0 0 0 0	1 0 0 0	0 0 0 0	196 5.3 6.6	199 25 1014	206 13 13	0.0	
28	22.4	10.3	8.5	3.4	17.1	13.6	5.4	0.0	1019.1	0 0 0 0	1 0 0 0	0 0 0 0	59 1.0 3.0	77 11 1732	89 5 17	2.4	
29	20.4	11.8	1.0	8.5	17.3	13.8	0.5	0.0	1012.6	0 0 0 0	1 0 0 0	0 0 0 0	180 1.7 3.7	23 15 0142	222 6 16	1.3	
30	20.5	13.2	0.1	10.4	17.2	14.0	1.5	0.0	1015.2	0 0 0 0	0 0 0 0	0 0 0 0	245 6.4 6.6	235 20 1415	243 10 14	0.1	
31	22.8	10.5	0.0	6.1	17.1	14.1	3.7	0.0	1023.4	0 0 0 0	0 0 0 0	0 0 0 0	229 2.4 3.3	276 12 1528	256 5 14	0.0	
Total			66.2				161.2	0.0									49.8
Mean	19.3	8.9		5.0	14.1	12.0	5.20	0.0	1016.9				155 0.5 5.3				
Anom	+1.8	+1.4	131%	+0.7	+0.6	+0.2	85%			+1.0							
Daily mean	14.1																
Anom	+1.6																

Number of days with:

Air frost = 0            Ground frost = 3            Nil sun = 4  
 Snow falling = 0        Snow lying = 0            Thunder = 3  
 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 MAY 2017

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	Nh	Cl	h	Cr	Ch	NChshs	NChshs	NChshs	Date	Remarks		
1	82	6	07	06	13	13.0	7.9	71	6.6	1002.5	1	017	03	1	1	6	8	4	0	0	82818	86650	1	Cu med	
2	56	1	03	04	10	12.9	7.8	71	6.5	1019.6	1	014	05	4	1	1	6	4	0	1	81715		2	1Ci75	
3	62	8	02	09	19	9.6	5.6	76	5.6	1022.5	5	000	02	2	2	8	5	4	/	/	85615	87625	88640	3	
4	60	7	02	07	17	11.5	8.2	80	6.7	1022.0	0	002	05	2	2	7	5	4	/	/	87715	87650		4	
5	83	3	06	10	26	13.6	5.3	57	5.5	1022.4	8	012	03	0	0	3	1	6	0	0	83830			5	Cu hum
6	59	7	06	08	19	13.1	7.3	68	6.3	1012.3	5	000	05	2	2	7	5	5	/	/	87624			6	
7	62	7	36	06	10	10.1	6.3	77	5.9	1021.3	1	013	01	5	2	7	8	4	/	/	83815	87625		7	Cu hum
8	68	7	01	10	18	9.4	2.9	64	4.7	1027.3	2	010	02	2	2	7	5	5	/	/	87627			8	
9	73	8	02	06	13	9.2	3.0	65	4.7	1024.6	7	011	02	2	2	8	8	5	/	/	85825	88630		9	Cu hum
10	65	7	06	06	13	12.2	4.9	61	5.3	1009.8	7	019	03	1	1	2	5	5	0	1	82622	86080		10	COTRA
11	50	7	07	05	09	12.8	9.4	80	7.3	996.8	6	008	21	6	2	2	5	7	7	/	82656	86360	87363	11	
12	75	7	16	06	11	15.6	11.8	78	8.5	995.7	0	006	03	2	2	7	8	4	/	1	83812	83360		12	2Sc25 /Ci75 Cu med COTRA
13	65	8	23	09	16	14.1	8.1	67	6.6	1007.1	2	024	03	6	2	6	8	5	7	/	83820	85635	88358	13	Cu med
14	84	3	25	07	16	14.4	7.9	65	6.6	1017.8	2	031	03	1	1	3	2	5	0	1	83825			14	1Ci75 Cu med
15	65	8	19	09	16	13.7	12.3	91	8.8	1024.2	2	004	61	6	6	8	5	3	/	/	83708	87612	88630	15	
16	81	7	20	07	18	18.5	14.4	77	10.1	1023.5	2	006	01	2	2	7	5	4	3	/	87615			16	/Ac65
17	60	8	13	03	06	15.7	15.2	97	10.7	1017.6	6	015	61	6	6	7	5	2	/	/	82703	86706	88650	17	
18	82	4	25	03	07	13.7	8.5	71	6.9	1013.6	0	002	03	1	1	3	2	4	3	1	82818			18	2Ac60 1Ci75 COTRA Cu med
19	63	7	26	06	10	11.6	9.5	87	7.3	1011.9	1	010	60	6	2	7	8	4	/	/	82810	83640	87650	19	2Sc25 Cu med
20	88	6	21	08	16	13.7	7.9	68	6.6	1017.1	1	011	03	1	1	6	8	5	0	1	84825	83650		20	1Ci72 Cu med
21	84	5	18	08	15	15.4	8.9	65	7.0	1025.1	0	001	03	2	2	2	2	5	0	1	82825	84075		21	COTRA Cu med
22	86	7	16	08	14	19.2	8.8	51	7.0	1016.8	7	005	02	2	2	3	0	9	3	1	83367	85075		22	COTRA Halo 22° part
23	80	7	23	04	10	17.2	12.3	73	8.8	1021.1	1	016	03	2	2	7	5	4	/	1	86617	84635		23	/Ci75
24	63	5	32	02	07	19.3	12.3	64	8.8	1026.5	1	003	03	1	1	1	1	5	0	1	81825	85080		24	COTRA Cu hum U/a cont
25	68	1	05	03	07	22.1	15.0	64	10.5	1024.6	8	004	03	0	0	1	1	5	0	0	81825			25	Cu hum
26	80	0	10	06	15	23.2	14.2	57	10.0	1018.6	8	010	02	0	0	0	0	9	0	0				26	
27	70	7	19	09	17	20.9	15.9	73	11.1	1011.9	3	002	03	6	2	7	8	4	/	/	82712	84815	87620	27	Absent vv&cld est
28	80	7	08	03	07	19.3	12.1	69	8.7	1019.1	0	003	03	2	2	1	1	5	0	8	81820	87275		28	Cu hum Accsent vv&cld est
29	56	8	07	02	06	15.9	14.9	94	10.5	1012.6	0	002	05	2	2	8	6	3	/	/	86706	88708		29	
30	75	7	23	06	14	16.4	12.8	79	9.1	1015.2	1	014	03	5	2	7	8	4	/	/	83815	87640		30	Cu hum
31	65	8	07	02	05	16.7	13.0	79	9.3	1023.4	1	006	03	2	2	8	8	4	/	/	83810	88640		31	2Sc30 Cu med

Mean vis = 24.7 km

Mean cloud = 6.1 76%

Mean wind speed = 6.1 kn

Mean gust = 13 kn

Mean TT = 14.9 °C

Mean TdTd = 9.8 °C

Mean RH = 72.2 %

Mean r = 7.7 g/kg

Mean PPP = 1016.9 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	Hour	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May	16-May
Sunshine	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
Hourly analysis	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
2017	4	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
	5	0.80	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.96	0.88	0.00	0.00	0.00	0.00	0.00
	6	0.66	0.00	0.00	0.00	1.00	0.66	0.00	0.00	0.01	1.00	0.00	0.00	0.00	0.69	0.00	0.01
	7	0.26	0.17	0.00	0.00	0.97	0.56	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.81	0.00	0.03
	8	0.16	0.81	0.00	0.00	0.47	0.50	0.00	0.00	0.00	0.96	0.00	0.29	0.00	0.82	0.00	0.01
	9	0.38	1.00	0.00	0.09	0.73	0.00	0.29	0.00	0.00	1.00	0.22	0.09	0.00	0.80	0.00	0.15
	10	0.02	0.96	0.00	0.00	0.28	0.00	0.55	0.00	0.00	1.00	0.02	0.00	0.00	0.88	0.00	0.16
	11	0.00	0.86	0.00	0.12	0.49	0.01	0.79	0.00	0.00	1.00	0.29	0.24	0.00	0.66	0.00	0.10
	12	0.00	0.25	0.00	0.00	1.00	0.00	0.81	0.00	0.00	1.00	0.34	0.35	0.00	0.89	0.00	0.04
	13	0.00	0.01	0.00	0.00	1.00	0.11	1.00	0.00	0.00	1.00	0.02	0.09	0.09	0.31	0.00	0.12
	14	0.39	0.00	0.00	0.00	0.96	0.02	1.00	0.00	0.73	1.00	0.00	0.13	0.23	0.50	0.00	0.00
	15	0.32	0.00	0.00	0.29	0.79	0.00	1.00	0.00	0.95	1.00	0.05	0.10	0.42	0.54	0.00	0.00
	16	0.21	0.00	0.00	0.29	0.07	0.09	0.98	0.00	1.00	1.00	0.68	0.39	0.48	0.25	0.00	0.00
	17	0.17	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.89	1.00	0.89	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.69	0.93	1.00	0.00	0.00
	19	0.01	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.40	0.16	0.00	0.00	0.10	0.35	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>3.38</b>	<b>4.06</b>	<b>0.00</b>	<b>0.80</b>	<b>9.00</b>	<b>1.95</b>	<b>8.65</b>	<b>0.00</b>	<b>5.09</b>	<b>14.09</b>	<b>2.54</b>	<b>3.26</b>	<b>3.23</b>	<b>9.39</b>	<b>0.00</b>	<b>0.62</b>

Hour	0	17-May	18-May	19-May	20-May	21-May	22-May	23-May	24-May	25-May	26-May	27-May	28-May	29-May	30-May	31-May	Mean
	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	0.29	0.32	0.31	0.48	0.00	0.44	0.46	0.01	0.43	0.05	0.00	0.00	0.10
	6	0.00	0.06	0.00	1.00	0.62	0.17	0.37	0.00	1.00	1.00	0.36	1.00	0.14	0.00	0.00	0.30
	7	0.00	0.53	0.00	1.00	0.79	0.00	0.57	0.82	1.00	1.00	0.37	1.00	0.28	0.00	0.10	0.37
	8	0.00	0.82	0.00	1.00	0.69	0.34	0.01	1.00	1.00	1.00	0.15	1.00	0.00	0.00	0.00	0.35
	9	0.00	1.00	0.00	0.73	0.75	0.55	0.60	1.00	1.00	1.00	0.77	0.97	0.00	0.01	0.00	0.40
	10	0.00	0.74	0.00	0.07	0.76	1.00	0.00	1.00	0.99	1.00	0.08	0.02	0.00	0.00	0.00	0.34
	11	0.00	0.27	0.00	0.08	0.43	1.00	0.00	1.00	0.26	1.00	0.01	0.06	0.00	0.00	0.00	0.26
	12	0.00	0.01	0.00	0.35	0.42	1.00	0.00	0.99	0.59	1.00	0.01	0.00	0.00	0.00	0.34	0.30
	13	0.00	0.02	0.25	0.00	0.38	1.00	0.00	0.98	0.35	1.00	0.03	0.50	0.00	0.01	0.33	0.31
	14	0.00	0.00	0.16	0.14	0.41	0.67	0.00	0.75	0.72	1.00	0.15	0.23	0.00	0.02	0.06	0.26
	15	0.00	0.00	0.16	0.12	0.71	1.00	0.00	0.92	0.84	1.00	0.92	0.00	0.04	0.02	0.24	0.35
	16	0.00	0.00	0.00	0.32	0.81	1.00	0.40	0.93	0.77	1.00	0.82	0.00	0.00	0.54	0.28	0.40
	17	0.00	0.00	0.79	0.43	1.00	1.00	0.68	0.95	0.95	1.00	0.22	0.00	0.00	0.53	0.44	0.43
	18	0.00	0.00	0.25	0.23	1.00	1.00	0.77	0.87	1.00	1.00	0.00	0.20	0.00	0.40	0.34	0.42
	19	0.00	0.00	0.00	0.24	1.00	0.60	0.90	0.82	1.00	1.00	0.32	0.00	0.00	0.00	0.52	0.39
	20	0.00	0.00	0.00	0.00	0.78	0.00	0.79	0.52	0.88	0.94	0.55	0.00	0.00	0.00	1.00	0.22
	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>0.00</b>	<b>3.44</b>	<b>1.61</b>	<b>6.00</b>	<b>10.87</b>	<b>10.64</b>	<b>5.57</b>	<b>12.54</b>	<b>12.78</b>	<b>15.39</b>	<b>4.76</b>	<b>5.40</b>	<b>0.51</b>	<b>1.54</b>	<b>3.66</b>	<b>160.74</b>

MAY 2017	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	10.16	14.8	1445	7.2	2355	83.7	99.7	617	51.9	1446	7.37	6.43	7.8	906	5.3	1449	1004.89	1014.3	2359	998.4	58	0.4
2	10.64	18.5	1123	3.4	353	76.9	99.6	656	36.4	1123	6.21	5.87	7.8	846	4.6	1318	1019.41	1023.0	2318	1014.3	0	0.0
3	9.31	11.8	1114	6.0	436	81.2	91.9	1855	64.7	1115	6.23	5.84	6.6	1634	5.1	435	1022.50	1023.3	2220	1021.6	1648	0.2
4	11.15	15.8	1255	8.1	2254	76.6	91.2	529	52.3	1256	7.04	6.18	7.7	941	5.4	2253	1022.49	1024.5	2137	1021.4	1225	0.1
5	11.80	18.1	1416	6.2	502	66.5	92.5	503	33.9	1407	5.16	5.44	6.9	830	4.1	1230	1020.19	1024.2	2	1015.1	2359	0.0
6	11.80	16.1	1329	8.7	435	74.3	86.9	552	56.7	1330	7.27	6.33	7.7	1332	5.7	1	1013.59	1017.4	2358	1011.8	757	0.0
7	11.99	18.7	1504	7.1	306	69.1	93.4	324	34.6	1357	5.90	5.72	6.9	1134	4.3	1357	1021.16	1024.8	2302	1017.3	0	0.0
8	9.17	12.4	1410	5.2	310	70.9	83.8	311	58.0	1411	4.12	5.03	6.2	0	4.3	507	1027.12	1028.4	2205	1024.6	0	0
9	8.80	14.8	1520	2.5	2355	69.7	97.4	2357	46.6	1436	3.37	4.79	6.2	1411	4.2	500	1022.01	1028.4	0	1015.3	2356	0.0
10	10.17	19.8	1521	-0.0	440	70.3	99.5	540	31.0	1534	3.98	5.11	7.0	1426	3.7	440	1007.59	1015.4	2	1001.5	2358	0.0
11	12.74	21.5	1337	3.3	413	82.0	99.2	2359	45.4	1200	9.30	7.56	10.6	1610	4.8	415	996.09	1001.6	4	993.1	1741	3.9
12	14.32	18.6	1600	11.4	2248	81.8	99.5	256	57.5	1601	11.05	8.32	10.1	1138	6.9	1838	997.05	1002.6	2339	993.9	333	1.8
13	13.76	18.2	1459	11.5	336	70.1	91.6	530	42.6	1456	8.12	6.78	8.4	642	5.1	1813	1007.88	1012.3	2354	1002.4	1	0.0
14	13.86	19.8	1250	8.9	2351	71.8	96.6	430	33.4	1239	8.39	6.82	8.8	1141	4.7	1239	1018.64	1024.7	2358	1011.7	223	2.8
15	14.13	17.8	1316	9.0	0	85.1	94.3	718	68.7	1557	11.60	8.45	9.9	2359	6.4	426	1023.93	1024.7	45	1023.0	1558	0.6
16	17.73	23.0	1309	15.1	2332	79.9	94.5	2328	55.2	1309	14.06	9.85	11.1	1308	9.0	1627	1023.20	1024.0	11	1022.5	527	0.6
17	14.36	17.2	1136	10.1	2354	96.5	98.7	627	87.4	2355	13.82	9.81	11.7	1136	6.7	2355	1016.39	1022.8	1	1012.4	1910	35.0
18	11.44	16.5	1205	8.6	246	85.4	98.4	307	49.0	1154	8.81	7.05	8.4	1559	5.4	1143	1012.70	1014.0	808	1011.0	2359	8.3
19	10.70	15.4	1300	6.8	2257	86.4	98.9	2313	55.5	1301	8.37	6.84	8.2	1213	5.7	1426	1012.31	1014.5	2350	1010.3	423	2.2
20	11.21	16.5	1609	6.1	421	81.1	97.5	533	59.2	1610	7.92	6.60	8.5	1545	5.6	421	1018.13	1023.7	2358	1014.4	0	2.0
21	13.70	20.3	1442	6.6	457	71.3	99.1	536	39.1	1652	7.86	6.54	8.1	1138	5.3	1711	1022.88	1025.6	738	1019.5	2354	0.0
22	16.99	24.6	1338	7.8	353	64.0	98.5	449	32.3	1215	9.05	7.13	8.9	1342	5.8	1307	1016.08	1019.6	0	1013.5	1620	0.0
23	15.95	21.6	1617	10.1	443	78.9	93.6	446	60.1	1617	12.22	8.81	11.1	1538	7.0	427	1021.38	1024.9	2338	1016.6	5	0.0
24	18.03	25.5	1511	10.2	408	75.3	99.3	459	42.5	1512	12.99	9.19	12.2	1136	7.5	408	1025.40	1026.7	829	1024.1	1710	0.0
25	18.86	27.3	1457	11.2	425	72.1	99.1	510	40.3	1418	13.19	9.39	13.4	1314	6.3	2311	1023.06	1025.3	717	1020.5	1842	0.0
26	19.63	27.7	1358	9.9	359	64.5	96.5	409	32.7	1335	11.73	8.55	11.6	1136	6.6	0	1016.93	1021.2	7	1013.2	2353	0.0
27	16.70	22.1	1534	12.4	2352	81.9	96.1	219	58.0	1540	13.45	9.58	12.7	802	8.4	2319	1014.05	1018.4	2356	1011.0	826	0.2
28	16.43	22.6	1225	10.2	354	78.8	98.6	236	47.0	1314	12.46	8.95	11.5	1217	7.5	353	1017.33	1019.5	758	1013.5	2324	0.9
29	16.07	20.5	1415	11.7	418	93.7	99.0	434	79.4	1426	15.04	10.64	12.8	1411	8.4	418	1012.35	1015.7	21	1011.0	1516	8.6
30	16.31	20.5	1708	13.0	409	79.0	94.9	1039	54.5	1639	12.49	8.96	11.0	1046	7.7	1515	1015.99	1021.0	2356	1012.3	1	0.1
31	16.72	22.9	1648	10.4	344	76.2	98.6	453	48.6	1712	12.15	8.71	11.0	1134	7.6	344	1022.11	1023.6	835	1020.7	110	0.0
Total																						67.7
Mean	13.70	19.38		8.34		77.26	96.08		50.14		9.38	7.46	9.38		5.96		1016.61	1020.33		1013.28		
Max	19.63	27.72		15.06		96.50	99.70		87.40		15.04	10.64	13.42		9.03		1027.12	1028.41		1024.60		
Min	8.80	11.80		-0.02		63.97	83.80		30.95		3.37	4.79	6.18		3.74		996.09	1001.60		993.06		

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

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

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

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

# WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

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

## Seasonal Means and Totals

## SPRING 2017

Temperature (°C)									Rank in the past 136 years
Mean maximum	16.2	(+1.9)							3 <sup>rd</sup> highest
Mean minimum	6.3	(+1.3)							= highest with 1998
Daily mean	11.2	(+1.6)							*Highest*
Rainfall total (mm)	107.9	(75 %)							33 <sup>rd</sup> lowest
Sunshine total (hours)	467.9	(101 %)							
N° of:									
Dry days	57	(+5)							Wet days 23 (-5)
Days with: Air frost	1	(-10)							Snow falling 0 (-4) Snow lying 0 (0)
Ground frost	34	(-1)							
Thunder	4	(-1)							Fog @09 GMT 0 (-1) Nil sun 10 (0)
Hail ≥5mm	0	(-2)							
Small hail/ice	2	(-3)							
Air pressure MSL : Mean @09 GMT (mbar)	1018.5								(+2.9)

Departure from 1981 to 2010 average shown in brackets.

Notes: **New Record High Mean Temperature and Dry with Near Normal Sunshine.**

**Temperature:** The 11.2° mean this spring is a new record, exceeding the previous highest set in 2011 by 0.1°. It is 1.6° above the current 30 year climatological average, but is 2.3° above the 136 year median. The mean minimum is joint highest with 1998, and is 2.1° above the median. The mean maximum is joint 3<sup>rd</sup> highest with 2007, and is 2.7° above the median. The seasons highest temperature was 27.6° on the 26<sup>th</sup> May, 2.2° above the median, but well below the record of 31.8° in 1944. The lowest maximum was 9.2° on the 1<sup>st</sup> March, 4.7° above the median and 3<sup>rd</sup> highest in 105 years. The highest min was 14.6° on the 17<sup>th</sup> May, 2.1° above the median and 7<sup>th</sup> highest in 105 years, while the lowest min of -1.3° was on the 27<sup>th</sup> April, 2.9° above the median and 3<sup>rd</sup> highest in 114 years. The mean grass min of 2.2° is 0.7° above average, and the lowest grass min was -7.0° on the 27<sup>th</sup> April, highest for the season since 1994. The mean earth temperature at 30 cm depth is 11.5°, 1.3° above average and highest in the past 38 years. At 1 m depth the mean was 10.3°, also above normal but not a record. There was only one air frost compared with an average of 11, fewest since 1959. The duration of air frost at 3.8 hours is also lowest in the past 35 years (average 56.5 hours). Despite this, the number of ground frosts is close to average. This spring April was fractionally colder than March but May was by far the mildest month. **Rainfall:** This has been a dry spring overall, with a total 25 % below average. However, several recent spring seasons have been drier, namely 2003, 2009, 2010, 2011 and 2015 in this millennium. The season's highest daily fall was 22.8 mm on the 17<sup>th</sup> May, 5.2 mm above the median. There were 5 more dry days than average, and 4 dry spells, 5 days ending on the 27<sup>th</sup> March, 13 days to the 13<sup>th</sup> April, 7 days to the 10<sup>th</sup> May and 5 days to the 25<sup>th</sup> May. Also, the 34 day period ending on the 25<sup>th</sup> April had a total fall of only 2.9 mm, 1.2 mm of which fell on 1 day. There was a notable wet spell, the 3 days to the 18<sup>th</sup> May when 44.6 mm was recorded. May was by far the wettest month with 131 % of average and April the driest with just 13 % of average, but March was also drier than average with just 77 %. There was a notable fall of snow pellets (classified as hail) on the 26<sup>th</sup> April giving a temporary white covering. Thunder was heard on the 3<sup>rd</sup> March and the 27<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup> May. The duration of measurable rain, 89.8 hours, is 75 % of average, the same as the total rainfall. The estimated soil moisture deficit stood at 65 mm at the end of the season, and an index of stress in shallow rooted plants was 112 for this season, compared with an average of 66, and values near 300 for the very dry springs of 1990, 1997 and 2011. **Sunshine:** The total of 467.9 hours is a daily mean of 5.09 hours, which is close to the climatological average and also the long-term median. April was the sunniest month, mean 6.11 hours, and March the dullest, mean 3.98 hours, but compared with average April with 114 % and March with 111 % were high compared with the 85 % in May. There were two notable sunny spells, 2 to 11 April, daily mean 9.9 hours, with one sunless day in that spell, and 21 to 26 May, daily mean 11.3 hours. The sunniest day this spring was the 26<sup>th</sup> May with 15.4 hours. There were 10 days with nil sun, which is close to average. Overall there were 33 days with <3 hours, 32 with =>6 hours, 22 with =>9 hours, 11 with =>12 hours and 1 with =>15 hours. **Wind:** The overall mean speed of 6.7 mph is 0.3 mph below average. The windiest day was the 19<sup>th</sup> March, mean 13.4 mph, and the season's highest gust of 40 mph was also on that day. The least windy was the 7<sup>th</sup> April, 2.7 mph, and there were 1542 minutes of calm. Daily mean direction/number of days, N7, NE12, E7, SE2, S12, SW28, W16, NW8. Compared with average winds from SW and W combined were 10.0 % more frequent, and those from N and NE combined 9.5 % less frequent. **Humidity:** The overall mean relative humidity was 75.9 % and the lowest value of 25 % was on the 25<sup>th</sup> March. Mean water vapour content per kg of air was 6.3 g at 0900 GMT and 6.1 g at 1500 GMT. **Pressure:** The highest pressure of 1037.8 mbar was on the 19<sup>th</sup> April and the lowest of 985.8 mbar on the 5<sup>th</sup> March, a span of 52.0 mbar, close to the average 52.8 mbar. **March:** Exceptionally mild with rainfall below and sunshine above average. Mean temperature a new record high. Mean min 2<sup>nd</sup> highest in 136 years. Lowest max 5<sup>th</sup> highest in 105 years. Highest min 3<sup>rd</sup> highest in 105 years. Lowest min new record high in 114 years. Lowest grass min highest since before 1980, as is the 30 cm earth temp. Water vapour content highest in the past 22 years. **April:** Mild, sunny and very dry. Highest max 7<sup>th</sup> highest in 114 years. Lowest max 6<sup>th</sup> highest in 105 years. Mean grass min lowest since 1990. Most ground frosts since 1984. Very dry with just 13% of average. Sunny, especially early in month with 102 hours by the 11<sup>th</sup>. **May:** Wet and dull but very mild with a hot spell. Mean temperature 5<sup>th</sup> highest in 131 years. Mean min 3<sup>rd</sup> highest in same period.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Mean Wind mph	Max gust	Mean pressure	Anom
March	13.9°	+2.7°	5.8°	+2.6°	35.3	77%	123.5	111%	8.3	40	1015.1	-0.8
April	15.4°	+1.4°	4.1°	-0.3°	6.4	13%	183.2	114%	5.6	31	1023.5	+8.5
May	19.3°	+1.8°	8.9°	+1.4°	66.2	131%	161.2	85%	6.1	32	1016.9	+1.0



## **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 of 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.