

# 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

**FEBRUARY 2015**

Temperature (°C / °F)				Anomaly	Rank in the past 134 years			
Mean maximum	7.5	45.5	-0.7	52 <sup>nd</sup> lowest				
Mean minimum	0.6	33.1	-0.9	49 <sup>th</sup> lowest				
Daily mean	4.1	39.4	-0.8	48 <sup>th</sup> lowest				
Highest maximum	12.1	53.8	on 25 <sup>th</sup>	Lowest maximum	2.3	36.1	on 2 <sup>nd</sup>	
Highest minimum	6.8	44.2	on 26 <sup>th</sup>	Lowest minimum	-5.3	22.5	on 2 <sup>nd</sup>	
Mean grass minimum	-3.6	25.5	-1.8	Lowest grass minimum	-10.5	13.1	on 2 <sup>nd</sup>	
Mean earth @30 cm	4.5	40.1	-0.8	Earth @100 cm	6.3	43.3		
Frost duration (hrs)	74.6			Rain duration (hrs)	48.3			
Rainfall total (mm / in)	40.7	1.60	95 %	63 <sup>rd</sup> highest				
Highest daily fall	13.0	0.51	on 13 <sup>th</sup>					
Number of: Dry days (<0.2mm)	14	Wet days (>0.9mm)	10	days ≥5mm	3			
Sunshine total (hrs) 73.2	Daily mean 2.61	95 %		Sunniest day 9.5		on 17 <sup>th</sup>		
N <sup>o</sup> days with: Air frost 14	Ground frost 23	Snow falling 5	Snow lying 1					
Thunder 0	Hail ≥5mm 0	Small hail/ice 1	Fog @09 0	Nil sun 5				
Pressure MSL : Mean @09 GMT, mbar 1017.3	-0.1	Highest 1042.0	on 17 <sup>th</sup>	Lowest 990.6	on 22 <sup>nd</sup>			
Relative humidity : Mean (%) 82.2	Lowest 39	on 24 <sup>th</sup>	Water vapour (g/kg), mean at 09 and 15 GMT 4.3, 4.3					
Overall mean wind speed (mph) 6.8	Windiest day 12.8	on 23 <sup>rd</sup>	Max gust 41	on 28 <sup>th</sup>				
Wind direction (days) N 5 NE 2 E 0 SE 3 S 4 SW 6 W 4 NW 4								
Least windy day (mph) 2.5	on 10 <sup>th</sup>	Calm; less than 0.5 mph (minutes) 242						

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

Notes: **Temperature, Rainfall and Sunshine, all Below Average**

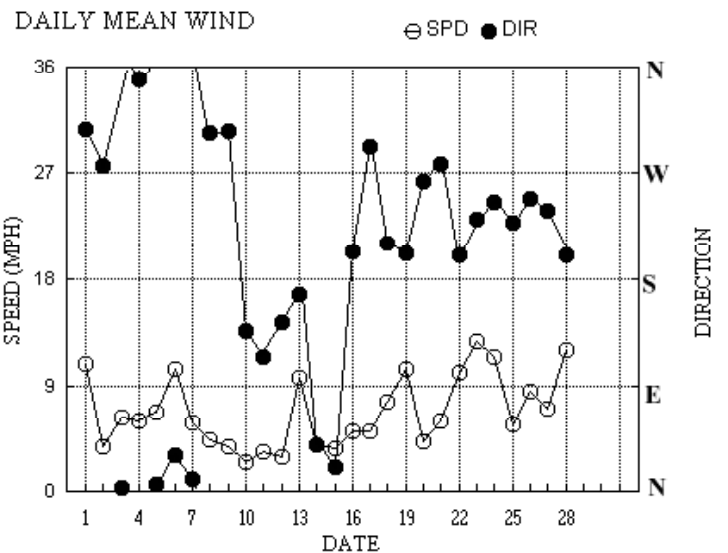
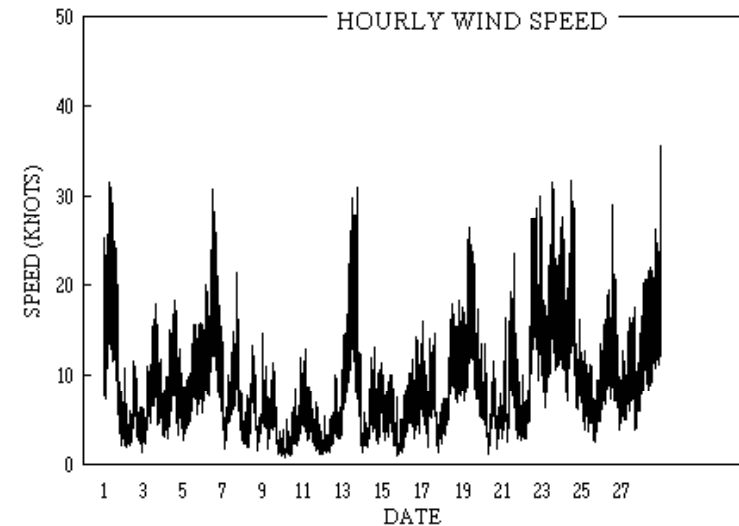
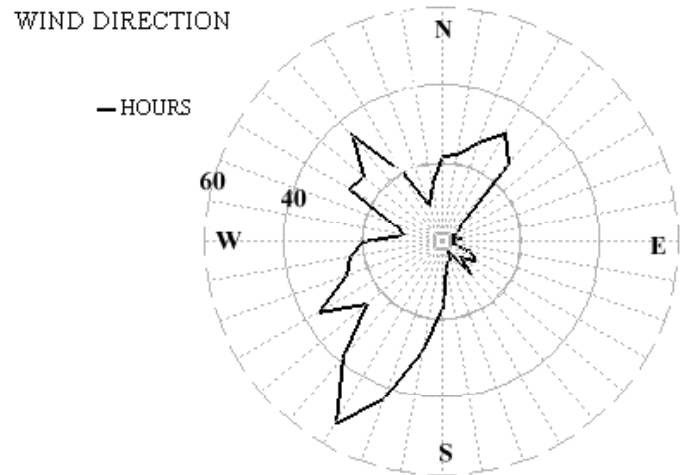
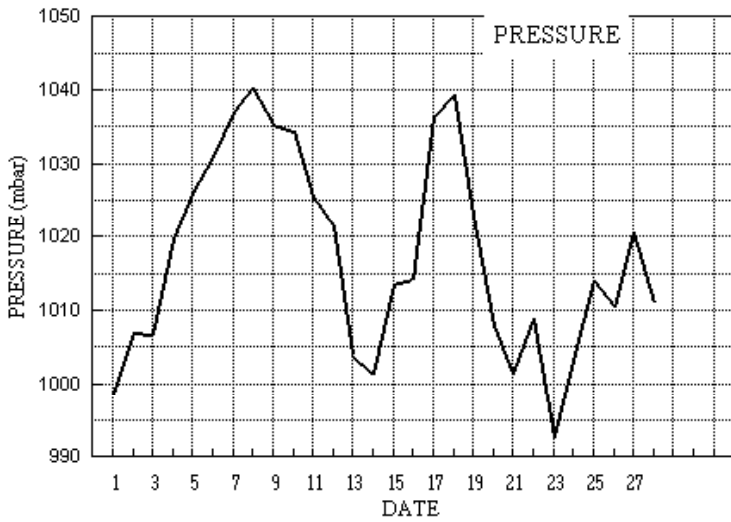
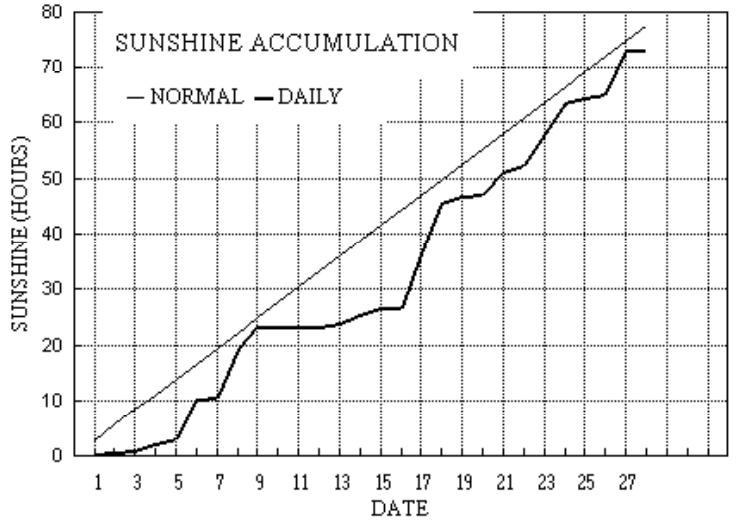
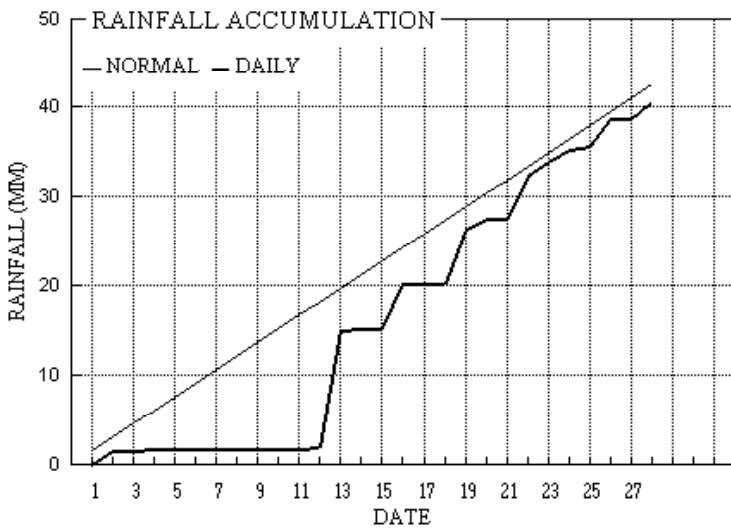
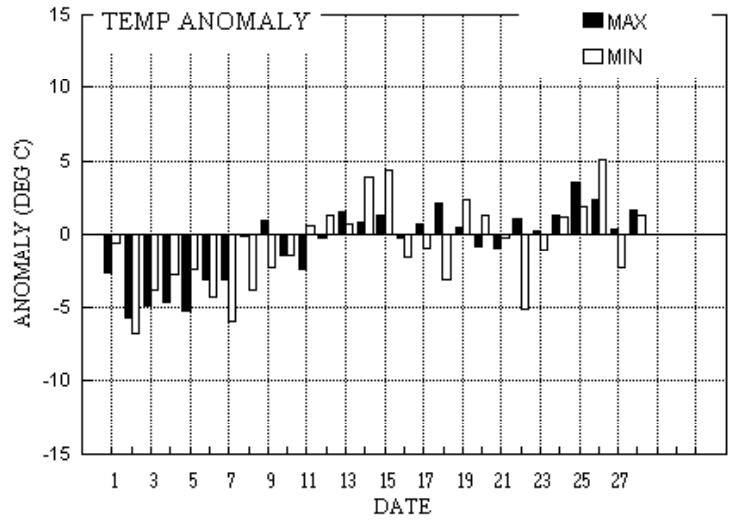
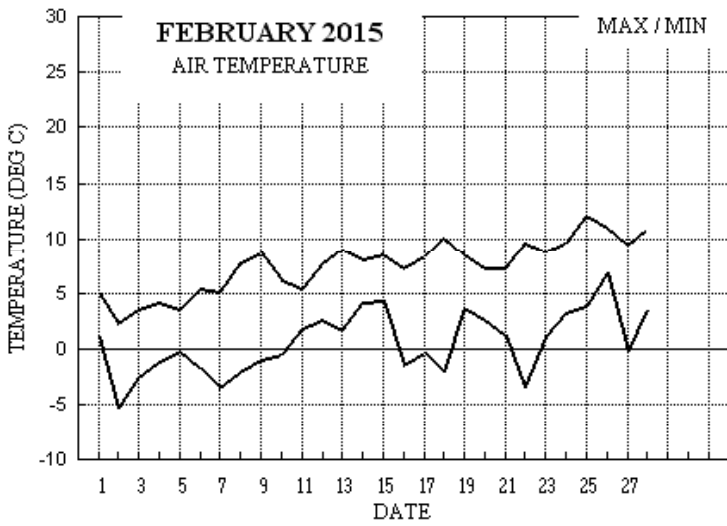
**Temperature:** This month's mean temperature is 0.8° below the current 30 year climatological average, and justifies regarding this as quite a cold February. In recent years the Februarys of 2014 and 2011 have been milder than this one, with just 2013 colder, though 2012 and 2010 were the same. However we need to look back as far as 1986 to find a really cold February, and that month had a mean temperature of -1.1°, 5.2° below this year's mean. Also, the highest temperature that month was only 4.0°, 0.1° below the daily mean this year. This month's highest max is 0.9° below the median, and the lowest max is equal to the median. The highest min is 1.2° below the median and the lowest min is 0.3° below its median. The mean grass min is lowest since 1996, but the lowest grass min is lowest only since 2012. The mean earth temperature at both 30 cm and 1 m depth are lowest since 2010. The number of days with air frost is jointly 2<sup>nd</sup> highest after 2012 since 1996, and the number of ground frosts is equal highest with 1996 since 1991. Despite that, the duration of air frost is 16.1 hours below average. The majority of cold days this month were in the 1<sup>st</sup> week, with anomalies for max over 4° below normal from the 2<sup>nd</sup> to the 5<sup>th</sup>, and for min over 5° below normal on the 2<sup>nd</sup> and 7<sup>th</sup>. From the 8<sup>th</sup> onwards temperatures were generally close to normal, apart from a cold night on the 22<sup>nd</sup> (anomaly -5°) and a mild min on the 26<sup>th</sup> (anomaly +5°). **Rainfall:** The rainfall this February is just a little below average. Compared with other Februarys this millennium, 6 have been drier and 9 wetter. It is perhaps with gratitude that we received this February only about one third the amount in 2014, the 2<sup>nd</sup> wettest February in 134 years, with its attendant problems. This year, the month got off to a largely dry start, with a 7 day dry spell ending on the 11<sup>th</sup>, and it wasn't until the 13<sup>th</sup> that we saw significant rainfall. Compared with normal, there was an accumulated deficit of 17mm by the 12<sup>th</sup>, which reduced to about 2 mm by the 19<sup>th</sup>, where it remained mainly unchanged until the 28<sup>th</sup>. The number of dry days is close to average, and rainfall duration is 2.3 hours less than average. Sleet or snow fell on 5 days but the only significant snowfall was overnight on the 3<sup>rd</sup>, when 2 cm depth of snow was recorded at 0900 GMT. **Sunshine:** The daily mean sunshine this February is slightly below average, and is lowest only since 2013, and before that, 2011. It was dull until the 5<sup>th</sup>, then sunny on the 6<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup>, with over 90 % of the maximum on the 8<sup>th</sup>, but then dull again from the 10<sup>th</sup> to the 16<sup>th</sup>, 4 days having no sun, then over 90 % of the max again on the 17<sup>th</sup> and 18<sup>th</sup>. This proved to be the best of the month, and although sunshine accumulation was close to normal daily values were only above 70 % of the max on the 27<sup>th</sup>, and was below 30 % on 6 days. Overall there were 19 days with <3 hours, 5 with =>6 hours and 2 with =>9 hours. **Wind:** The mean wind speed is 1.1 mph below average and lowest since 2012. The highest gust is 7 mph below average.

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 28 <sup>th</sup>			
-3.0°	-3.4°	13%	83%	+0.4°	+0.9°	171%	87%	+1.2°	+0.1	105%	120%

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

# Wokingham climatological graphs for February 2015



Month: FEBRUARY 2015

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	5.0	1.1	0.0	-0.1	4.3	6.9	0.5	2.5	998.6	0	1	1	0	0	0	0	0	0.0
2	2.3	-5.3	1.5	-10.5	4.1	6.8	0.3	15.2	1007.0	1	1	1	0	0	0	0	0	4.2
3	3.6	-2.5	0.1	-6.5	3.7	6.7	0.3	10.0	1006.7	1	1	1	1	0	0	0	0	0.2
4	4.2	-1.1	0.2	-7.3	3.6	6.6	1.2	5.6	1019.6	1	1	0	0	0	0	0	0	0.9
5	3.6	-0.1	tr	-4.8	3.6	6.5	0.9	1.6	1025.8	1	1	1	0	0	0	0	0	0.2
6	5.4	-1.7	0.0	-7.5	3.6	6.4	7.2	7.9	1030.9	1	1	0	0	0	0	0	0	0.0
7	5.1	-3.4	tr	-9.0	3.3	6.3	0.1	6.9	1036.9	1	1	0	0	0	0	0	0	0.2
8	7.8	-2.0	0.0	-7.7	3.4	6.2	8.8	4.9	1040.2	1	1	0	0	0	0	0	0	0.0
9	8.7	-1.0	0.0	-6.8	3.4	6.1	4.0	0.0	1035.2	1	1	0	0	0	0	0	0	0.0
10	6.2	-0.5	0.0	-6.0	3.6	6.1	0.0	1.0	1034.3	1	1	0	0	0	0	0	0	0.0
11	5.5	1.9	0.0	3.0	4.0	6.0	0.0	0.0	1025.5	0	0	0	0	0	0	0	0	0.0
12	7.7	2.6	0.2	1.9	4.3	6.0	0.0	0.0	1021.5	0	0	0	0	0	0	0	0	0.5
13	9.0	1.7	13.0	-4.2	4.4	6.1	0.6	0.0	1003.8	0	1	0	0	0	0	0	0	8.2
14	8.1	4.2	0.3	0.0	4.8	6.1	1.6	0.0	1001.3	0	0	0	0	0	0	0	0	0.5
15	8.5	4.3	0.0	-1.2	5.1	6.1	1.1	1.9	1013.5	0	1	0	0	0	0	0	0	0.0
16	7.3	-1.4	5.0	-6.4	5.1	6.2	0.0	1.9	1014.2	1	1	0	0	0	0	0	0	6.1
17	8.4	-0.3	0.0	-6.1	5.1	6.3	9.5	1.8	1036.2	1	1	0	0	0	0	0	0	0.0
18	10.1	-2.1	0.0	-7.0	4.7	6.3	9.3	5.8	1039.3	1	1	0	0	0	0	0	0	0.0
19	8.5	3.7	6.2	2.1	4.7	6.3	1.3	0.0	1022.9	0	0	0	0	0	0	0	0	11.6
20	7.3	2.7	1.1	-1.4	5.1	6.3	0.5	0.0	1007.8	0	1	0	0	0	0	0	0	1.3
21	7.3	1.3	tr	-4.0	5.2	6.3	3.9	0.0	1001.2	0	1	1	0	0	0	1	0	0.0
22	9.6	-3.5	4.7	-9.5	4.9	6.3	1.3	7.4	1008.8	1	1	0	0	0	0	0	0	4.9
23	8.8	1.1	1.6	-0.8	4.8	6.3	5.5	0.0	992.6	0	1	0	0	0	0	0	0	0.8
24	9.7	3.2	1.3	-0.4	5.0	6.3	5.5	0.0	1003.1	0	1	0	0	0	0	0	0	2.4
25	12.1	3.9	0.4	-1.1	5.1	6.3	1.1	0.0	1014.0	0	1	0	0	0	0	0	0	0.7
26	11.1	6.8	3.2	7.9	5.8	6.3	0.4	0.0	1010.5	0	0	0	0	0	0	0	0	3.3
27	9.4	-0.2	tr	-5.1	6.0	6.4	8.3	0.2	1020.6	1	1	0	0	0	0	0	0	0.0
28	10.9	3.5	1.9	-1.1	5.8	6.5	0.0	0.0	1011.0	0	1	0	0	0	0	0	0	2.3
Total			40.7				73.2	74.6										48.3
Mean	7.5	0.6		-3.6	4.5	6.3	2.61	2.7	1017.3					252	2.1	5.9		
Anom	-0.7	-0.9	95%	-1.8	-0.8	-0.5	95%			-0.2								
Daily mean		4.1																
Anom		-0.8																
Number of days with:																		
Air frost = 14																		
Ground frost = 23																		
Nil sun = 5																		
Snow falling = 5																		
Snow lying = 1																		
Thunder = 0																		
Hail=>5mm = 0																		
Hail<5mm or ice = 1																		
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 FEBRUARY 2015

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks							
1	82	6	31	12	31	2.9	-1.6	72	3.4	998.6	2	020	01	2	2	6	8	5	3	0	82825	86635	1	1Ac62	Cu	fra	
2	82	7	21	02	04	-2.1	-3.6	89	2.9	1007.0	3	004	03	2	2	7	0	9	1	/	83463	87466	2		Hoar	slt	
3	60	7	01	06	11	-0.3	-1.3	92	3.5	1006.7	2	015	05	2	2	2	5	3	0	2	81708	87075	3	2Sc35	COTRA	Snly 2cm 100% U/a cont	
4	61	7	35	08	15	1.4	-0.5	87	3.6	1019.6	2	016	02	8	2	7	6	4	/	/	83710	87712	4	/Sc50	Gnd frzn	Snly Tr	
5	56	8	36	05	10	1.0	-0.4	90	3.6	1025.8	3	010	68	7	6	7	5	3	2	/	84708	85620	88545	5		Snly	10% <1cm
6	80	5	03	10	19	0.4	-3.3	76	2.9	1030.9	2	011	01	2	2	4	5	6	0	1	84638		6	1Ci75	COTRA	Hoar slt Gnd frzn	
7	61	7	02	05	08	1.9	0.8	92	3.9	1036.9	1	013	03	1	1	7	5	4	/	/	84615	87618	7		Gnd	frzn	
8	56	7	30	03	08	1.0	0.4	96	3.8	1040.2	1	014	10	2	2	1	5	5	0	1	81625	87080	8	COTRA	Hoar	slt Gnd frzn	
9	57	8	36	04	08	4.4	2.7	88	4.5	1035.2	3	003	05	2	2	8	6	3	/	/	88708		9				
10	22	8	27	02	03	2.0	1.4	95	4.1	1034.3	2	008	10	2	2	8	5	4	/	/	88618		10				
11	59	8	13	03	09	4.6	1.2	79	4.1	1025.5	7	003	05	2	2	8	5	4	/	/	88615		11				
12	58	8	08	01	02	3.4	-0.3	77	3.7	1021.5	0	006	05	2	2	8	5	5	/	/	88622		12				
13	60	7	18	11	23	7.7	4.5	80	5.3	1003.8	7	029	05	6	2	7	5	4	/	1	83615	87618	13	/Ci75	COTRA		
14	40	7	05	03	07	5.0	4.7	99	5.4	1001.3	2	023	10	2	2	7	6	2	0	2	85703	83625	14	1Ci72			
15	38	8	36	05	09	5.9	4.9	93	5.4	1013.5	1	023	05	2	2	8	6	3	/	/	87707	88712	15				
16	58	8	16	06	09	5.7	5.4	98	5.5	1014.2	6	007	10	2	2	1	6	4	7	/	81710	87360	16	1Ac57	/As65		
17	82	0	31	04	08	3.5	0.8	83	3.9	1036.2	2	036	02	0	0	0	0	9	0	0			17		Hoar	slt	
18	80	2	21	05	10	3.7	0.4	79	3.8	1039.3	7	004	02	0	0	0	0	9	0	1	82080		18	COTRA	Hoar	slt Gnd frzn	
19	65	6	20	11	25	7.9	3.7	75	4.9	1022.9	7	020	03	1	1	4	5	5	8	1	81620	84628	19	1Ac59	2Ac65	3Ci72	Ac cas
20	56	7	14	01	03	4.3	3.8	97	5.0	1007.8	8	008	10	2	2	1	6	2	3	2	81705	87072	20	1Ac65	COTRA		
21	84	7	27	05	11	2.9	1.5	91	4.3	1001.2	2	016	01	6	2	6	8	4	0	2	81815	85650	21	2Sc30	2Ci68	Cu	fra
22	60	7	19	05	08	1.1	0.0	92	3.8	1008.8	8	005	05	1	1	0	0	9	0	6	87273		22		Gnd	frzn. Hoar	slt. Halo 22 part
23	75	4	23	13	22	5.0	-0.1	70	3.8	992.6	0	004	25	8	1	3	8	6	6	3	81830	83650	23	1Ac63	2Ci68	jpS	VV50k ex S
24	82	3	26	10	20	6.5	1.5	71	4.3	1003.1	2	047	02	0	0	1	0	9	3	1	81365		24	1Ci70	2Ci75	COTRA	
25	59	8	23	05	10	6.8	5.9	94	5.7	1014.0	3	014	50	6	5	8	5	3	/	/	82708	86711	88618	25			
26	63	8	20	09	19	10.1	9.1	93	7.2	1010.5	7	021	02	5	2	8	6	2	/	/	85705	88706	26				
27	75	0	25	07	14	3.5	-0.3	76	3.7	1020.6	2	014	02	0	0	0	0	9	0	0			27		Hoar	slt in shade	
28	22	8	19	09	21	6.8	5.8	94	5.7	1011.0	5	010	50	5	2	8	6	2	/	/	83705	87706	88708	28			

Mean vis = 16.8 km  
 Mean cloud = 6.3 79%  
 Mean wind speed = 6.1 kn  
 Mean gust = 12 kn  
 Mean TT = 3.8 °C  
 Mean TdTd = 1.7 °C  
 Mean RH = 86.4 %  
 Mean r = 4.3 g/kg  
 Mean PPP = 1017.3 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 FEBRUARY 2015

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	81	7	32	13	25	4.3	-2.9	59	3.1	1003.1	2	020	02	2	2	7	8	6	/ /	81830	87635	1	Cu hum		
2	80	7	31	05	11	2.3	-3.1	68	3.0	1006.0	7	009	01	2	2	1	2	5	1	8	81825	83462	87268	2	Cu med COTRA Halo 22° part
3	65	7	01	08	15	3.6	0.5	80	3.9	1009.6	3	012	01	2	2	3	8	4	0	1	83815	87072		3	1Sc45 COTRA Cu hum Thaw Snly tr
4	80	7	34	10	16	3.9	-1.0	71	3.5	1021.6	3	005	03	2	2	7	5	5	/ /	86625	87635		4		
5	72	6	01	09	16	3.4	0.3	80	3.8	1025.4	8	004	21	6	2	1	8	4	7	/	81712	85360		5	1Ci15 2Sc56 Cu med
6	80	1	03	11	25	4.7	-2.4	60	3.1	1030.5	7	003	02	0	0	1	1	6	0	0	81830			6	Cu hum
7	68	8	01	06	14	5.0	1.7	79	4.2	1036.3	5	005	02	5	2	8	5	4	/ /	86618	88622		7		
8	68	3	32	06	12	7.7	1.3	64	4.1	1038.2	6	017	01	1	1	0	0	9	0	1	83080			8	COTRA
9	59	1	33	05	11	8.6	2.8	67	4.6	1033.5	6	013	05	1	1	1	1	4	0	0	81818			9	Cu hum
10	63	8	06	02	06	5.8	0.9	71	4.0	1031.7	7	018	02	2	2	8	5	5	/ /	88622			10		
11	59	8	08	02	05	5.3	0.9	73	4.0	1022.9	6	014	05	2	2	8	5	5	/ /	88620			11		
12	58	8	18	03	07	4.5	-1.5	65	3.4	1018.8	7	019	05	2	2	8	5	5	/ /	85624	88627		12		
13	62	7	18	09	24	8.8	6.3	84	6.0	997.7	6	028	21	6	2	3	8	4	0	2	83815	86075		13	1Sc35 Cu med
14	65	7	05	04	13	7.3	5.9	91	5.8	1003.6	2	008	25	8	2	7	8	4	/ /	81815	87640		14	1Sc20 Cu med jpW&SE vv30k ex p	
15	59	6	02	03	09	8.0	4.0	76	5.0	1014.2	7	005	05	2	2	6	8	4	0	0	84817	83625		15	Cu hum
16	58	8	14	02	10	7.3	6.5	95	6.0	1013.7	5	000	61	6	6	7	5	3	2	/	81706	85708	87635	16	8Ns50
17	82	1	30	07	14	8.4	-1.3	51	3.4	1038.9	2	004	01	1	1	1	4	6	0	1	81840			17	1Sc45 1Ci80 COTRA Cu hum
18	82	2	21	09	17	9.8	2.1	59	4.3	1035.1	6	028	02	0	0	2	5	5	0	2	82628			18	1Ci75
19	58	8	21	12	24	7.3	5.8	90	5.7	1017.8	7	027	61	6	6	7	5	4	2	/	82712	87615	88530	19	
20	84	7	32	06	11	6.5	1.8	72	4.4	1003.5	7	025	02	2	2	1	8	5	7	/	81820	87462		20	1Sc40 1Ac65 Cu med
21	86	5	31	07	19	6.5	-1.9	55	3.3	1002.0	3	002	02	1	1	4	8	6	0	3	82835	83650		21	1Ci70 Cb tops W-NW
22	61	8	19	14	26	4.9	3.2	89	4.8	999.8	7	056	63	6	2	7	5	4	2	/	82612	86618	88525	22	
23	75	7	24	13	25	6.1	-0.4	63	3.8	991.2	7	003	25	8	1	5	9	5	6	3	81925	85830	85068	23	1Ac58 Cu con jpW VV50k ex p
24	82	4	26	14	29	8.7	-2.2	46	3.2	1009.4	3	027	02	1	1	3	8	6	0	1	83845			24	1Sc50 1Ci72
25	82	5	34	02	06	10.7	5.1	68	5.4	1016.0	1	004	02	2	2	4	8	5	0	1	82825	83635		25	2Ci80 COTRA Cu hum
26	70	8	31	08	20	8.6	4.0	73	5.1	1011.2	3	020	01	6	2	7	8	4	/	8	81815	87650		26	1Sc35 /Cs70
27	80	6	26	08	17	8.3	-2.3	47	3.2	1019.8	7	012	03	1	1	2	1	6	0	1	82845	85078		27	COTRA Cu hum
28	80	8	22	11	22	10.2	6.3	77	6.0	1005.0	7	032	02	6	5	8	8	5	/ /	85820	87630	88650	28		

Mean vis = 24.1 km

Mean cloud = 6.0 75%

Mean wind speed = 7.5 kn

Mean gust = 16 kn

Mean TT = 6.7 °C

Mean TdTd = 1.4 °C

Mean RH = 70.5 %

Mean r = 4.3 g/kg

Mean PPP = 1016.3 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-Feb	02-Feb	03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb
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
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
	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
2015	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8	0.00	0.31	0.00	0.00	0.00	0.28	0.00	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	0.09	0.00	0.00	0.00	0.00	0.46	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00
	10	0.34	0.00	0.00	0.57	0.00	0.87	0.13	1.00	0.00	0.00	0.00	0.00	0.05	0.76	0.00
	11	0.11	0.00	0.04	0.37	0.00	1.00	0.00	1.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
	12	0.00	0.00	0.00	0.22	0.00	0.98	0.00	1.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00
	13	0.00	0.00	0.00	0.02	0.00	0.94	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	0.00	0.00	0.11	0.00	0.05	0.99	0.00	1.00	1.00	0.00	0.00	0.00	0.10	0.00	0.22
	15	0.00	0.00	0.12	0.00	0.42	1.00	0.00	1.00	0.95	0.00	0.00	0.00	0.29	0.02	0.07
	16	0.00	0.00	0.00	0.00	0.41	0.70	0.00	0.84	0.66	0.00	0.00	0.00	0.15	0.00	0.80
	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	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
	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>0.54</b>	<b>0.33</b>	<b>0.27</b>	<b>1.18</b>	<b>0.87</b>	<b>7.23</b>	<b>0.13</b>	<b>8.83</b>	<b>4.04</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.59</b>	<b>1.62</b>	<b>1.08</b>

Hour	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	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
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
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
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
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
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.43	0.40	0.59	0.00	0.00	0.55	0.34	0.69	0.00	0.00	0.80	0.00	0.14
8	0.00	1.00	1.00	0.61	0.32	0.22	0.78	0.65	1.00	0.00	0.00	1.00	0.00	0.29
9	0.00	1.00	1.00	0.15	0.05	1.00	0.00	0.82	1.00	0.00	0.00	1.00	0.00	0.30
10	0.00	1.00	1.00	0.01	0.00	1.00	0.00	0.65	0.53	0.09	0.00	1.00	0.00	0.32
11	0.00	1.00	1.00	0.00	0.00	0.37	0.00	0.55	0.06	0.01	0.00	1.00	0.00	0.24
12	0.00	1.00	1.00	0.00	0.05	0.35	0.00	0.53	0.52	0.09	0.00	0.96	0.00	0.25
13	0.00	1.00	1.00	0.00	0.02	0.01	0.00	0.29	0.57	0.26	0.00	0.98	0.00	0.25
14	0.00	1.00	0.96	0.00	0.00	0.15	0.00	0.71	0.23	0.13	0.00	0.73	0.00	0.26
15	0.00	1.00	0.99	0.00	0.00	0.16	0.00	0.33	0.60	0.53	0.02	0.50	0.00	0.28
16	0.00	0.94	0.88	0.00	0.02	0.65	0.00	0.55	0.10	0.02	0.15	0.33	0.00	0.26
17	0.00	0.12	0.08	0.00	0.00	0.03	0.00	0.05	0.24	0.00	0.24	0.00	0.00	0.03
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
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
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
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
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
Tot	<b>0.00</b>	<b>9.48</b>	<b>9.30</b>	<b>1.35</b>	<b>0.46</b>	<b>3.93</b>	<b>1.33</b>	<b>5.48</b>	<b>5.53</b>	<b>1.12</b>	<b>0.40</b>	<b>8.32</b>	<b>0.00</b>	<b>73.43</b>

FEBRUARY 2015	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
1	2.68	5.1	1218	-2.2	2245	68.8	89.2	152	58.3	1541	-2.54	3.20	3.8	202	2.5	2240	1000.80	1006.3	2336	994.9	13
2	-0.93	2.4	1445	-5.0	618	79.8	93.8	707	67.0	1452	-4.05	2.84	3.3	1146	2.4	206	1006.24	1007.3	1028	1004.7	2339
3	0.86	3.7	1500	-0.6	818	89.6	96.9	353	78.8	1542	-0.69	3.62	4.1	1434	3.1	0	1008.72	1015.6	2353	1004.3	145
4	1.70	4.3	1227	-1.1	100	81.9	93.9	625	69.4	1229	-1.13	3.47	3.9	1036	3.1	57	1020.53	1025.3	2357	1015.5	17
5	1.66	3.7	1248	-1.0	2354	83.7	90.8	945	71.5	730	-0.81	3.54	4.2	1200	2.8	2333	1026.28	1029.8	2311	1024.6	507
6	1.32	5.5	1252	-1.5	222	74.9	88.6	2346	56.6	1214	-2.77	3.04	3.4	1353	2.8	802	1031.14	1034.3	2359	1029.3	54
7	2.26	5.2	1345	-3.2	450	87.8	97.5	500	79.0	1632	0.40	3.84	4.6	1252	2.8	425	1036.58	1039.0	2356	1034.2	9
8	2.54	7.9	1451	-2.1	709	84.8	97.5	832	62.8	1510	0.08	3.73	4.4	1300	3.0	708	1038.69	1040.5	932	1037.0	2250
9	3.92	8.8	1443	0.1	2026	86.7	96.5	2354	65.7	1444	1.81	4.24	4.8	1218	3.5	2026	1034.76	1037.4	1	1033.1	1649
10	3.47	6.2	1523	-0.6	231	84.5	97.9	352	68.5	1608	0.97	3.99	4.4	1108	3.4	208	1032.27	1034.4	939	1028.4	2353
11	4.63	5.5	1407	3.5	2320	75.4	81.8	643	68.5	1923	0.65	3.93	4.2	1125	3.6	2042	1024.51	1028.5	0	1022.3	2200
12	3.37	4.6	1503	1.4	2002	74.2	86.1	2357	64.0	1457	-0.83	3.55	4.0	2359	3.2	1049	1019.74	1022.7	0	1013.9	2359
13	6.27	9.1	1034	2.1	22	86.8	95.5	2355	73.4	1039	4.20	5.19	6.2	1452	3.8	17	1002.17	1014.0	0	996.0	2320
14	5.79	8.2	1534	4.0	520	95.4	99.0	909	87.9	1134	5.11	5.51	6.3	1030	5.0	2104	1002.31	1008.5	2359	996.0	48
15	5.01	8.6	1429	-1.3	2344	91.2	99.0	2349	74.1	1620	3.64	4.95	5.6	22	3.4	2344	1013.68	1017.1	2214	1008.5	0
16	4.49	7.4	1458	-1.4	43	94.6	99.4	151	88.7	2346	3.69	4.97	6.0	1458	3.4	43	1016.36	1024.9	2359	1013.3	1430
17	3.48	8.6	1501	-1.2	2338	77.9	95.2	2359	47.1	1534	-0.37	3.62	4.2	9	3.0	1534	1036.24	1042.0	2300	1024.9	1
18	4.49	10.2	1351	-2.1	445	77.8	97.9	509	57.6	1320	0.69	3.92	4.6	1349	3.1	445	1036.81	1041.9	46	1030.2	2359
19	6.60	8.6	1005	4.6	445	85.3	95.2	2326	72.5	1007	4.28	5.14	6.0	1909	4.1	235	1020.44	1030.3	2	1011.6	2358
20	4.88	7.4	1324	1.2	1940	86.9	97.3	827	64.2	1522	2.80	4.70	5.8	127	3.8	1808	1005.82	1011.7	0	1000.5	2357
21	3.38	7.4	1229	0.1	2100	80.1	95.7	733	52.3	1635	0.05	3.85	4.4	916	3.1	1628	1002.40	1008.1	2357	999.0	409
22	3.30	9.7	2219	-3.3	616	89.1	97.9	629	70.1	2342	1.61	4.43	7.2	2207	2.9	616	1002.34	1009.4	558	990.6	2208
23	5.16	8.9	1230	3.1	1858	72.9	84.2	705	49.6	1236	0.63	4.07	5.1	11	3.4	1252	992.04	993.0	804	990.8	1534
24	5.96	9.8	1355	3.3	706	69.3	85.3	2330	38.9	1533	0.47	3.97	4.6	942	2.7	1540	1005.32	1014.4	2150	992.8	0
25	8.52	12.2	1540	4.7	2	83.1	94.7	739	63.1	1340	5.71	5.70	6.8	2356	4.5	6	1015.04	1017.4	2004	1012.3	435
26	8.32	11.2	1254	2.0	2359	82.5	95.6	1042	59.7	1756	5.39	5.80	7.8	1254	3.1	2113	1012.90	1017.0	2359	1008.8	1255
27	4.61	9.5	1356	-0.2	702	69.3	88.6	727	43.0	1348	-0.85	3.56	4.7	2357	3.0	1307	1019.37	1021.3	1131	1017.0	0
28	8.23	11.0	2312	5.6	125	86.4	94.7	925	76.3	409	6.08	5.91	7.6	2257	4.6	408	1007.20	1017.3	0	996.4	2333

Total	Mean	Max	Min																		
	4.14	7.52	0.32		82.2	93.78		65.30		1.22	4.22	5.07		3.33		1016.81	1021.76		1011.81		
	8.52	12.20	5.58		95.4	99.40		88.70		6.08	5.91	7.82		5.00		1038.69	1042.01		1036.96		
	-0.93	2.40	-5.00		68.8	81.80		38.91		-4.05	2.84	3.27		2.38		992.04	992.98		990.57		

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

Temperature (°C)

Mean maximum 8.3 (+0.2) 39<sup>th</sup> highest

Mean minimum 1.1 (-0.7) 53<sup>rd</sup> lowest

Daily mean 4.7 (-0.3) 56<sup>th</sup> highest

Rainfall total (mm) 143.1 (85%) 53<sup>rd</sup> lowest

Sunshine total (hours) 247.7 (126%)

N<sup>o</sup> of: Dry days 44 (-1) Wet days 30 (-2)

Days with: Air frost 39 (+8) Ground frost 62 (+11) Snow falling 11 (+1) Snow lying 2 (-3)

Thunder 1 (0) Hail ≥5mm 1 (0) Small hail/ice 2 (-1) Fog @09 GMT 1 (-5) Nil sun 20 (-9)

Air pressure MSL : Mean @09 GMT (mbar) 1017.0 (+0.4)

Departure from 1981 to 2010 average shown in brackets.

Notes:

### Drier and Cooler than Average, and Sunny.

**Temperature:** With the mean temperature slightly below average, this winter joins 5 of the past 7 to be on the cool side, though none are extreme. It is the mean minimum that is coldest in relation to average, and at 1.1° is lowest since 2011. However, the mean maximum is actually slightly above average, so that the overall impression is for this to have been a near normal season. December was the mildest month, mean 5.3°, anomaly +0.3°, and February the coldest, mean 4.1°, anomaly -0.8°. The season's highest temperature, 14.8°, 0.9° above the median, was on the 9<sup>th</sup> January, while the lowest air temperature recorded was -7.2°, 0.3° above the median, on the 23<sup>rd</sup> January. The lowest max was 2.3° on the 2<sup>nd</sup> February, 2.6° above the median, while the highest min was 10.9° on the 18<sup>th</sup> December, 1.0° above its median. The mean daily temperature range of 7.2° is 2<sup>nd</sup> highest after 2008 since before 1977. The mean grass minimum is lowest since 2010, and before that, 1991, but the lowest grass minimum, -11.8° on the 23<sup>rd</sup> January, is lowest only since 2013, and is 1.3° above average. Although the number of days with air frost is 8 above average, there were actually 21.6 fewer hours than average with air frost. The number of days with ground frost at 11 above average is most since 1985. **Rainfall:** After the extremely wet winter in 2013/14, it is welcome to be able to report a drier than average season this winter. January was the wettest month with 62.0 mm, an exactly average fall, and December was the driest with 40.4 mm, 65 % of average, though February only had slightly more with 40.7 mm, 95 % of average. There were no large daily falls, the wettest day on the 13<sup>th</sup> February having just 13.0 mm, the lowest since 2005 and 4.6 mm below the long-term median. The number of dry days, 44, is close to average, and the 11 days with a fall of 5 mm or more is 2 fewer than average. The duration of measurable rain, 133.6 hours, is 31.7 hours below average. Snow fell on 11 days, which is close to average, but the only significant falls were the 31<sup>st</sup> January, leaving 1 cm depth at 0900 GMT, and 3<sup>rd</sup> February, when 2 cm depth was recorded at 0900 GMT. There was a thunderstorm with 5-6 mm dia. hail on the 13<sup>th</sup> January, and there were showers of small hail and snow pellets on the 29<sup>th</sup> January and 21<sup>st</sup> February, the former was heavy and produced a temporary cover of 1 cm deep hail. The highest rain rate this season was 98 mm/hr at 1236 GMT on the 13<sup>th</sup> January. **Sunshine:** The sunshine total this winter is quite high, and is 11 % above the average since 1999, when the current electronic recorder was installed. Although December was the sunniest month with a daily mean of 2.89 hours, the amounts for each of the other months was similar, with the least sunny, February, having 2.61 hours. The sunniest day was the 17<sup>th</sup> February, 9.5 hours. The number of sunless days, 20, is well below average and is equal 2<sup>nd</sup> lowest after 2014 since before 1980. Overall there were 53 days with <3 hours, 15 with =>6 hours and 2 with =>9 hours. **Wind:** The overall mean wind speed of 7.8 mph is exactly average. The season's highest gust of 56 mph was on the 9<sup>th</sup> January, and that was also the windiest day, mean speed 16.9 mph. The least windy day was the 22<sup>nd</sup> January, mean 2.2 mph, and there were 913 minutes of calm (0.5 mph or less). Daily mean direction/number of days; N,9 NE,5 E,1 SE,4 S,10 SW,41 W,11 NW,9. Compared with average, SW winds were 10.9 % more frequent, and NW and N combined, 4.6 % more frequent, at the expense of NE and E combined, 11.8 % less frequent, and S, 5 % less. **Humidity:** The mean relative humidity was 83.3 %, and the lowest value was 39 % on the 24<sup>th</sup> February. The mean water vapour content per kg of air was 4.5 g at both 0900 and 1500 GMT. **Pressure:** The extremes of air pressure this winter were 1043.0 mbar on the 29<sup>th</sup> December and 975.0 mbar on the 20<sup>th</sup> January, a span of 68.0 mbar, compared with an average of 63.9 mbar.

**December:** Dry with near normal temperature and very sunny. Most of the month's rain fall on just 3 days. Sunniest since 2001, and 31 hours more sun than in November.

**January:** Mean temperature and rainfall near average. Sunny, and windy at times. The highest mean daily temperature range for January in the past 40 years. Maximum of 14.8° is 2.3° above the median and 2<sup>nd</sup> highest after 1998 in the past 112 years. Windiest since 2008.

**February:** Temperature, rainfall and sunshine all below average. Mean grass minimum lowest since 1996. Number of days with air frost joint 2<sup>nd</sup> highest since 1996, and with ground frost equal highest with 1996 since 1991.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Wind Mn mph	Max gust	Mean pressure	Anom
December	8.7°	+0.7°	1.8	-0.3°	40.4	65%	89.6	162%	8.2	43	1019.8	+4.1
January	8.5°	+0.7°	0.8°	-1.0°	62.0	100%	84.9	136%	8.5	56	1014.1	-2.6
February	7.5°	-0.7°	0.6°	-0.9°	40.7	95%	73.2	95%	6.8	41	1017.3	-0.1

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.



## **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.