

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

JANUARY 2016

Temperature (°C / °F)			Anomaly	Rank in the past 135 years						
Mean maximum	9.1	48.4	+1.3	23 rd highest						
Mean minimum	2.5	36.5	+0.7	34 th highest						
Daily mean	5.8	42.4	+1.0	27 th highest						
Highest maximum	14.0	57.2	on 24 th	Lowest maximum	3.6	38.5	on 19 th			
Highest minimum	9.3	48.7	on 27 th	Lowest minimum	-6.1	21.0	on 20 th			
Mean grass minimum	-0.9	30.4	+0.2	Lowest grass minimum	-11.0	12.2	on 20 th			
Mean earth @30 cm	6.9	44.4	+1.5	Earth @100 cm	9.4	48.9				
Frost duration (hrs)	58.7		Rain duration (hrs)		85.9					
Rainfall total (mm / in)	97.7	3.85	158 %		11 th highest					
Highest daily fall	12.5	0.49	on 3 rd							
Number of: Dry days (<0.2mm)	8	Wet days (>0.9mm)	17	days ≥5mm	7					
Sunshine total (hrs)	69.7	Daily mean	2.25	111 %		Sunniest day	8.0	on 20 th		
N ^o days with: Air frost	7	Ground frost	18	Snow falling		1	Snow lying 0			
Thunder	1	Hail ≥5mm	0	Small hail/ice		3	Fog @09	1	Nil sun	10
Pressure MSL : Mean @09 GMT, mbar	1008.1	-8.6	Highest	1031.3	on 23 rd	Lowest	978.3	on 11 th		
Relative humidity : Mean (%)	86.0	Lowest	28	on 19 th		Water vapour (g/kg), mean at 09 and 15 GMT		5.1,	5.5	
Overall mean wind speed (mph)	8.3	Windiest day		16.1	on 29 th		Max gust	43	on 7 th	
Wind direction (days)	N 0	NE 0	E 2	SE 4	S 8	SW 12	W 4	NW 1		
Least windy day (mph)	1.4	on 19 th		Calm; less than 0.5 mph (minutes)		556				

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

Notes:

Mild and Very Wet with Above Average Sunshine

Temperature: The mean temperature this January is in the mild category, and although higher than in January last year, is lower than in both 2014 and 2012. While 1.0° above the climatological average for 1981 to 2010, it is only 0.7° above the mean for this millennium, and the warming trend is clearly evident when this month's mean is compared with the 135 year median of 4.3°. 2010 was the last year to have a cold January. The highest max is 1.5° above the median and is 8th highest in 113 years. The lowest max is 2.6° above the median while the highest min is 0.9° above the median. The lowest min is close to its median. The lowest grass min is exactly average. Earth temperatures at 30 cm and 1 m depth are well above average, and at 1 m is equal highest with 2007 since before 1990. Also, the highest daily value at both depths is a new record, a knock-on effect from the exceptionally mild December. From the point of view of daily anomalies the month can be divided into three, 1st to 11th, near or a little above normal, 12th to 20th, below normal with a cold snap at the end of the period, and 21st to 31st, well above normal. Extreme anomalies for daily max were between -4° on the 19th and +6° on the 24th, and for daily min between -8° on the 20th and +8° on the 25th and 27th. **Rainfall:** This January is in the very wet category, that is within the highest 10% of values since 1882, and just 2 years after the wettest January on record. The period from the 1st to the 10th was persistently wet, although without any particularly high daily falls, but the accumulation was 45 mm above normal by the 10th. After the 11th rainfall was generally below average allowing the surplus to fall back to 28 mm by the 25th, but a wetter end to the month saw this increase to 37 mm by the 31st. The number of dry days is 6 fewer than average, and is 2nd lowest after 2014 since 1999. The duration of measurable rain is 144% of average. Sleet and snow fell on the 17th giving a temporary covering, but this thawed quickly as the snow turned to rain. Ice pellets were recorded on the 9th, 11th and 30th, and there was thunder on the 11th. The highest rainfall rate was 66 mm/hr on the 11th. **Sunshine:** This January has had a little above average overall, mainly due to 4 sunny days between the 15th and 20th, which lifted the accumulation from a deficit of 3 hours on the 14th to a surplus of 12 hours on the 20th. This dropped back to around 5 hours by the 27th, and the 28th was the only sunny day after the 20th. Days that had >50% of the maximum this month were the 15th, 16th, 19th, 20th and 28th. Overall there were 21 days with <3 hours and 5 with =>6 hours. **Humidity:** The relative humidity fell to 28% on the 19th, and unusually low value for January, the previous lowest since 1999 being 41% in 2008. **Wind:** The mean speed is 0.2 mph above average, but the month's highest gust is 8 mph below average. The month started with moderate or fresh winds, SE'ly on the 1st veering S'ly on the 2nd, falling light on the 5th but temporarily fresh SW'ly on the 7th and 9th then moderate or fresh, S'ly on the 10th veering W'ly by the 15th, falling light on the 16th and backing E'ly, then very light and variable for the 19th and 20th before increasing moderate S'ly on the 22nd, with a slow veer to SW'ly by the 27th and increasing fresh or strong after the 25th.

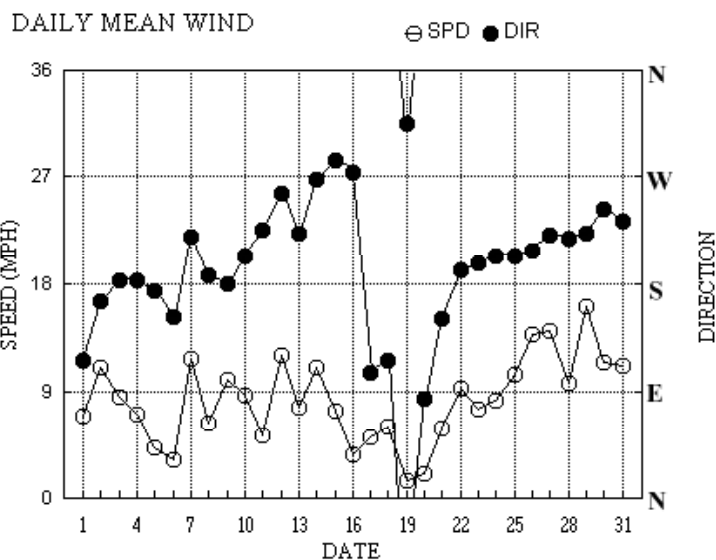
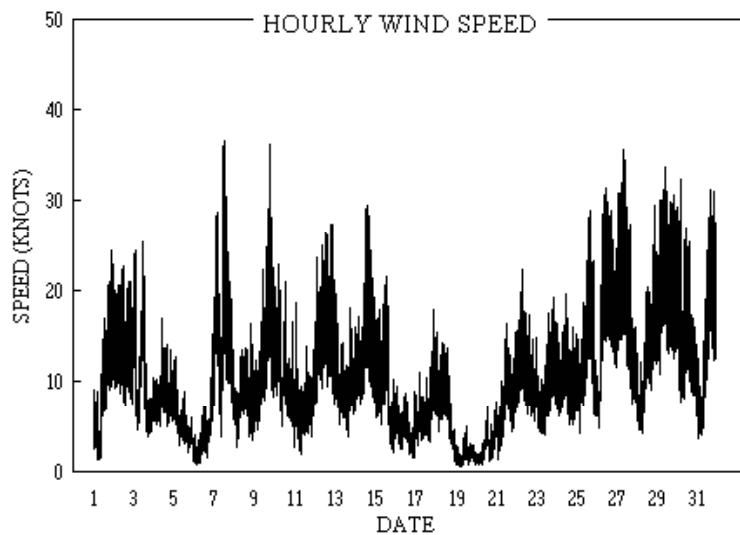
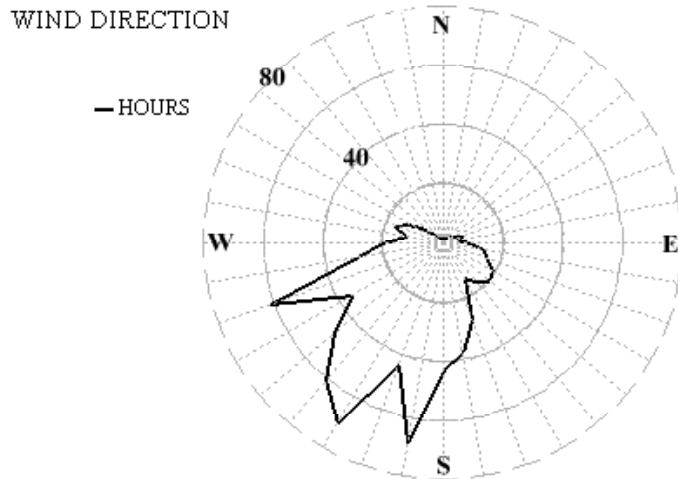
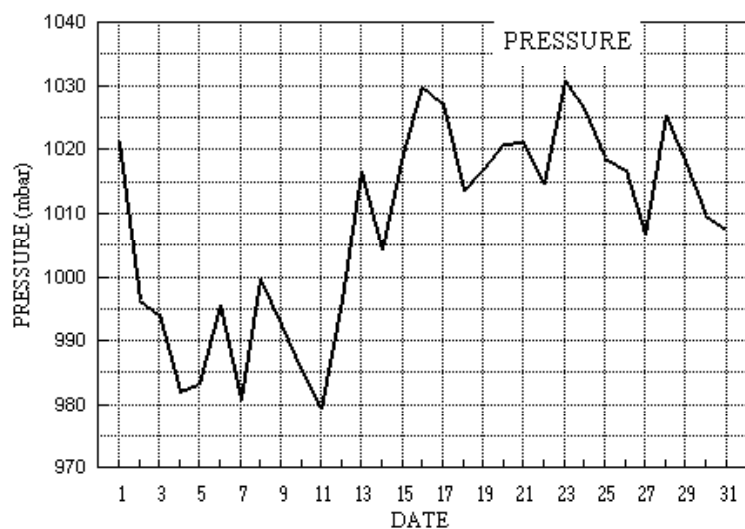
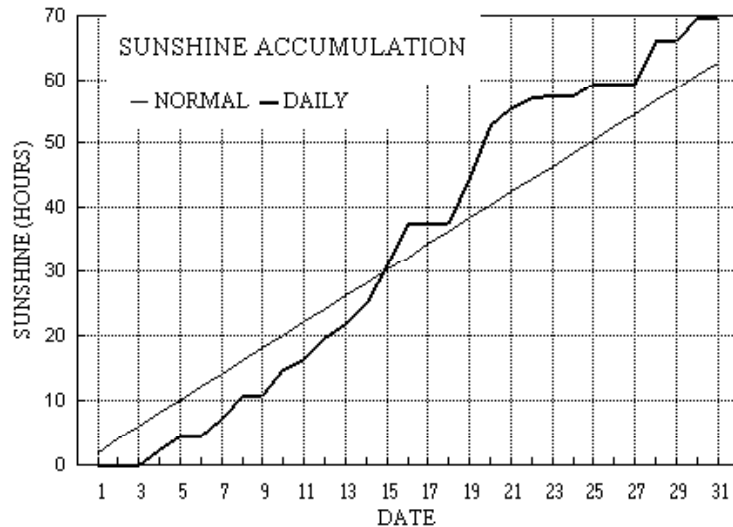
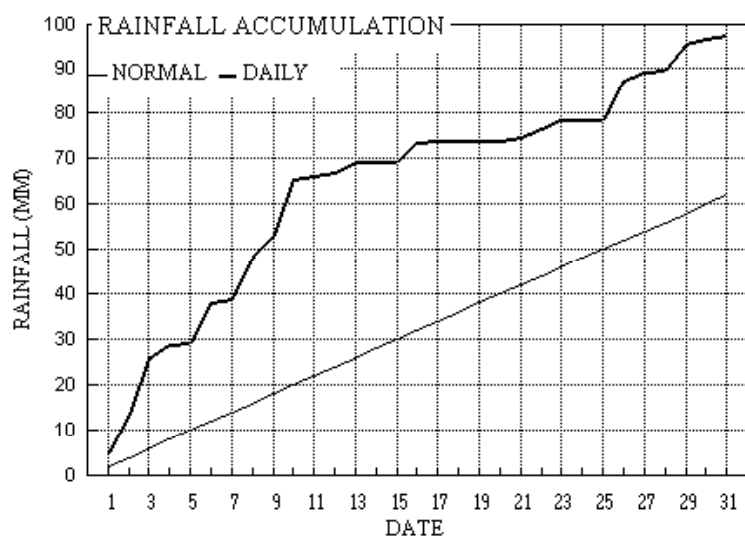
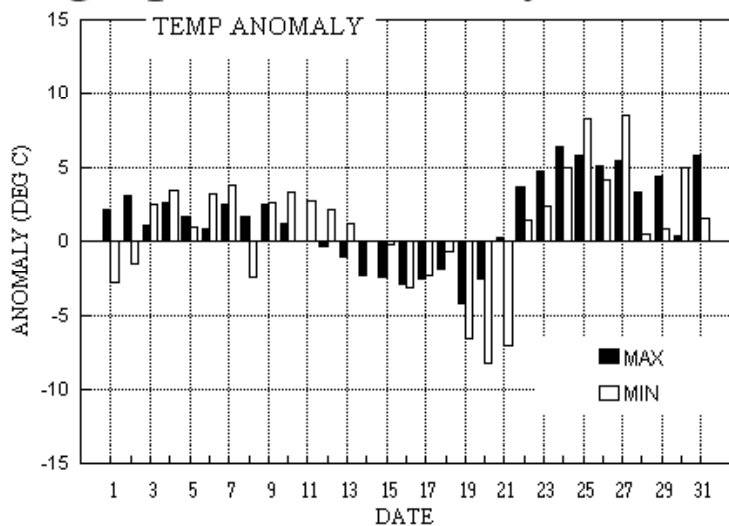
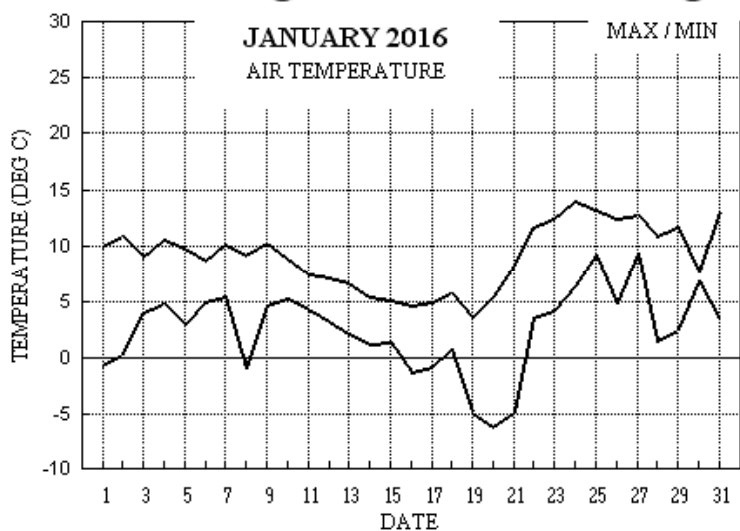
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
+1.9°	+1.3°	330%	74%	-2.0°	-1.5°	45%	188%	+4.1°	+2.8°	105%	74%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for January 2016



Month: JANUARY 2016

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	9.9	-0.6	4.9	-5.0	9.4	11.3	0.0	4.6	1021.3	1	1	0	0	0	0	116	5.2	6.0	128	25	2223	121	11	20	5.8	
2	10.9	0.3	8.6	6.2	9.0	11.2	0.0	0.0	996.2	0	0	0	0	0	0	166	5.8	9.5	128	23	0050	137	11	11	8.1	
3	9.0	4.0	12.5	0.6	9.4	11.1	0.0	0.0	994.0	0	0	0	0	0	0	183	6.2	7.4	141	26	1020	153	13	11	4.4	
4	10.6	4.8	2.8	-1.1	8.9	11.0	2.5	0.0	982.1	0	1	0	0	0	0	183	5.9	6.1	205	17	1044	201	9	10	2.2	
5	9.8	2.9	0.5	-2.1	8.6	10.9	2.1	0.0	983.3	0	1	0	0	0	0	174	3.6	3.7	174	13	0213	182	6	01	0.5	
6	8.7	5.0	8.9	-1.5	8.4	10.7	0.0	0.0	995.4	0	1	0	0	0	0	152	1.1	2.8	133	15	2240	129	7	23	4.8	
7	10.1	5.5	0.6	0.7	8.5	10.6	2.7	0.0	980.6	0	0	0	0	0	0	220	7.1	10.2	288	37	1231	272	15	12	0.6	
8	9.2	-1.0	9.9	-6.3	8.0	10.5	3.6	3.0	999.6	1	1	0	0	0	0	187	5.4	5.5	173	17	2039	188	8	13	3.5	
9	10.3	4.6	4.4	-1.0	7.6	10.4	0.1	0.0	992.6	0	1	0	0	0	1	180	8.4	8.6	205	36	1959	186	15	19	3.0	
10	8.9	5.3	12.4	2.0	7.9	10.3	4.0	0.0	985.1	0	0	0	0	0	0	203	7.3	7.5	231	23	0534	217	12	05	6.0	
11	7.5	4.4	0.7	1.0	7.5	10.1	1.6	0.0	979.4	0	0	0	1	0	1	225	3.5	4.6	222	19	0239	181	7	02	0.9	
12	7.2	3.3	1.0	-1.5	7.3	10.0	3.2	0.0	996.4	0	1	0	0	0	0	256	10.1	10.4	286	28	2125	261	12	14	2.0	
13	6.7	2.1	2.3	-2.6	6.9	9.9	2.3	0.0	1016.5	0	1	0	0	0	0	222	5.7	6.6	261	20	0125	262	9	01	2.0	
14	5.4	1.2	tr	-2.2	6.7	9.8	3.0	0.0	1004.2	0	1	0	0	0	0	268	8.6	9.5	298	30	1500	292	13	16	0.0	
15	5.2	1.4	0.0	-2.8	6.1	9.6	6.2	0.0	1019.2	0	1	0	0	0	0	284	5.8	6.3	307	22	1357	310	10	14	0.0	
16	4.6	-1.3	4.3	-7.9	5.5	9.4	6.3	4.1	1030.0	1	1	0	0	0	0	273	2.4	3.2	296	10	0210	295	5	11	7.5	
17	4.9	-0.8	0.3	-3.6	5.2	9.2	0.0	0.0	1027.1	1	1	1	0	0	0	106	4.3	4.5	108	18	2148	122	8	22	0.7	
18	5.7	0.7	0.0	1.9	5.4	9.0	0.0	4.4	1013.6	0	0	0	0	0	0	116	4.9	5.2	144	16	0248	134	8	02	0.0	
19	3.6	-4.8	0.0	-10.2	5.3	8.8	7.1	18.6	1016.8	1	1	0	0	0	0	315	0.1	1.2	254	5	1328	237	2	13	0.0	
20	5.4	-6.1	0.0	-11.0	4.4	8.7	8.0	17.9	1020.8	1	1	0	0	0	0	84	1.1	1.8	168	7	1437	70	4	14	0.0	
21	8.2	-4.8	0.7	-9.5	3.8	8.5	2.9	6.1	1021.3	1	1	0	0	0	0	151	4.7	5.0	177	17	1344	166	8	14	1.2	
22	11.6	3.6	1.8	2.3	4.0	8.2	1.5	0.0	1014.5	0	0	0	0	0	0	191	6.7	8.0	179	23	0710	162	10	05	1.5	
23	12.4	4.2	2.0	-1.3	4.7	8.0	0.3	0.0	1030.7	0	1	0	0	0	1	198	6.3	6.5	175	20	2123	186	9	21	1.0	
24	14.0	6.3	tr	6.3	5.4	7.9	0.1	0.0	1026.3	0	0	0	0	0	0	203	6.9	7.1	217	20	1220	224	9	13	0.0	
25	13.2	9.1	0.0	5.1	6.6	7.9	1.7	0.0	1018.8	0	0	0	0	0	0	203	8.1	9.0	221	29	1621	215	15	15	0.0	
26	12.4	4.8	9.0	0.0	6.9	8.0	0.0	0.0	1016.7	0	0	0	0	0	0	207	11.8	12.0	204	32	1106	210	16	11	16.9	
27	12.8	9.3	2.0	9.4	7.3	8.1	0.0	0.0	1006.8	0	0	0	0	0	0	221	11.7	12.2	208	36	0909	211	16	11	3.2	
28	10.9	1.6	0.1	-3.9	7.7	8.2	6.8	0.0	1025.4	0	1	0	0	0	0	218	8.2	8.4	206	30	2128	211	13	21	0.5	
29	11.7	2.4	6.0	5.3	7.2	8.4	0.0	0.0	1018.1	0	0	0	0	0	0	223	14.0	14.0	211	34	1001	225	16	10	7.1	
30	7.6	6.8	0.9	5.4	7.9	8.4	3.7	0.0	1009.6	0	0	0	0	1	0	243	9.6	10.0	261	33	0520	220	15	01	0.6	
31	13.1	3.4	1.1	-0.1	7.4	8.5	0.0	0.0	1007.6	0	1	0	0	0	0	233	8.9	9.6	251	31	1743	249	16	17	1.9	
Total			97.7				69.7	58.7																		85.9
Mean	9.1	2.5		-0.9	6.9	9.4	2.25	1.9	1008.1							208	5.1	7.2								
Anom	+1.3	+0.7	158%	+0.2	+1.5	+1.9	111%																			-8.6
Daily mean		5.8																								
Anom		+1.0																								

Number of days with:

Air frost = 7 Ground frost = 18 Nil sun = 10
 Snow falling = 1 Snow lying = 0 Thunder = 1
 Hail=>5mm = 0 Hail<5mm or ice = 3 Fog at 09GMT = 1

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 JANUARY 2016

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	57	8	10	01	05	0.3	-0.1	97	3.8	1021.3	7	013	10	2	2	1	5	6	1	7	81630	83465	88272	1	COTRA Hoar slt
2	58	7	13	09	17	9.7	8.8	94	7.0	996.2	6	008	51	6	5	7	7	3	/	/	82706	87708		2	/Sc56
3	62	8	15	09	17	7.8	5.9	88	5.8	994.0	7	051	60	6	2	7	5	3	2	/	82709	86613	88550	3	
4	62	7	16	05	10	6.6	5.9	95	5.8	982.1	7	002	15	1	1	7	5	6	6	3	82630	86640		4	1Ac65 3Ci75 COTRA jpW Cb top SW
5	58	7	18	04	07	4.9	4.5	97	5.2	983.3	3	015	10	1	1	7	8	3	/	2	81808	83612	85635	5	2Ci72 Cu hum
6	20	7	27	01	05	5.6	5.3	98	5.5	995.4	2	024	28	4	2	7	5	2	/	/	83705	87645		6	
7	59	7	21	05	09	8.7	7.9	95	6.6	980.6	5	000	50	6	5	7	5	3	3	/	83708	85712	85635	7	/Ac62
8	75	3	19	07	13	4.6	3.1	90	4.7	999.6	5	003	25	8	1	3	5	6	0	0	81635	83656		8	1Sc45 jpSE
9	65	7	17	08	17	8.6	7.5	93	6.5	992.6	6	012	25	8	2	5	8	4	7	2	81712	83815	87070	9	2Sc45 1Ac68 COTRA Cu med jpS
10	84	6	21	06	13	5.4	2.7	83	4.6	985.1	2	026	02	2	2	1	5	6	2	3	81630	83465	86070	10	Cb tops all quads exN
11	25	7	24	02	04	5.5	4.9	96	5.4	979.4	3	011	20	6	5	7	7	1	/	/	81702	83705	87708	11	
12	80	1	25	09	19	4.5	1.4	80	4.2	996.4	2	018	02	0	0	1	5	6	0	0	81635			12	
13	75	5	24	08	14	2.7	0.3	84	3.9	1016.5	2	013	02	1	1	1	0	9	4	1	81369	85072		13	COTRA Hoar slt
14	65	5	24	08	13	2.2	0.4	88	3.9	1004.2	3	001	15	1	1	1	5	6	7	2	81630	83462	85068	14	1Ac60 Hoar slt. jpN
15	86	1	27	08	15	2.0	-1.4	78	3.4	1019.2	2	015	02	0	0	1	5	5	0	0	81720			15	1Sc40 Hoar slt
16	68	1	24	02	06	-0.8	-1.9	92	3.3	1030.0	3	013	02	0	0	1	5	6	0	1	81645			16	1Ci75 Hoar mod
17	25	8	12	04	09	0.7	0.3	97	3.8	1027.1	2	005	68	7	6	7	7	2	2	/	81704	87705	88515	17	snly 0.5cm <50% Thaw
18	65	8	13	08	14	4.4	1.9	84	4.3	1013.6	6	003	01	2	2	7	5	4	2	/	81715	85625	87656	18	8As65
19	62	3	00	00	02	-4.3	-4.6	98	2.7	1016.8	2	006	02	0	0	2	0	9	7	2	82363			19	1Ci73 COTRA Hoar thk
20	50	1	20	01	03	-4.8	-5.5	95	2.5	1020.8	1	011	10	0	0	1	5	6	0	1	81630			20	1Ci75 Hoar thk
21	22	8	13	04	09	3.6	2.9	95	4.6	1021.3	1	007	10	5	2	8	5	3	/	/	83706	87708	88630	21	
22	58	8	17	09	17	6.6	5.9	95	5.7	1014.5	6	016	61	6	2	8	7	3	/	/	83706	87708	88712	22	
23	05	8	22	05	09	6.3	6.0	98	5.7	1030.7	2	026	46	4	2	8	6	1	/	/	88702			23	
24	61	8	22	09	16	12.3	11.5	95	8.3	1026.3	3	007	50	5	2	7	6	2	7	/	83705	87707		24	/Ac65
25	75	7	19	08	16	9.9	6.1	77	5.8	1018.8	6	012	02	2	2	1	5	5	8	1	81620	87078		25	2Ac69 COTRA Ac cas vir
26	62	7	20	15	28	9.3	6.0	80	5.8	1016.7	7	032	03	2	2	5	6	5	7	2	85620	83363	87072	26	COTRA
27	57	8	21	18	31	12.4	10.8	90	8.1	1006.8	7	014	50	5	2	8	5	3	/	/	83708	87710	88615	27	
28	70	1	20	04	08	2.4	0.5	87	3.9	1025.4	1	016	02	0	0	0	0	9	0	2	81075			28	Hoar slt
29	84	7	23	18	31	10.7	7.6	81	6.4	1018.1	6	007	01	2	2	6	8	4	3	8	83818	84630	87275	29	2Ac67 COTRA Cu hum
30	80	7	25	08	17	6.8	3.9	82	5.0	1009.6	3	011	02	2	2	6	8	4	2	/	81815	85656	87465	30	2Sc25 COTRA Cu med
31	50	8	18	05	11	6.1	4.9	92	5.4	1007.6	7	017	58	6	5	8	7	2	/	/	88705			31	

Mean vis = 16.2 km
 Mean cloud = 5.9 74%
 Mean wind speed = 6.7 kn
 Mean gust = 13 kn
 Mean TT = 5.2 °C
 Mean TdTd = 3.7 °C
 Mean RH = 90.1 %
 Mean r = 5.1 g/kg
 Mean PPP = 1008.1 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)
 N = Total cloud amount, oktas
 dd = Direction from which wind is blowing, tens of degrees true
 ff = 10 minute mean wind speed, knots
 gg = Highest gust in past hour, knots
 TT = Air temperature at 1.2 m, deg Celsius
 TdTd = Dew point temperature at 1.2 m, deg Celsius
 RH = Relative humidity at 1.2 m
 r = Humidity mixing ratio at 1.2 m, g/kg
 PPP = Air pressure reduced to sea level, mbar
 a = Characteristic of pressure tendency (Code FM12-0200)
 ppp = 3 hr pressure tendency, tenths of mbar
 ww = Present weather code (Code FM12-4677)
 W1, W2 = Past weather code (Code FM12-4561)-
 covers past 3 hours.
 Nh = Amount of low cloud present, oktas
 Cl = Type of low cloud (Code Fm12-0513)
 h = Height of low cloud (Code FM12-1600)
 Cm = Type of medium cloud (Code FM12-0515)
 Ch = Type of high cloud (Code FM12-0509)
 8 groups. 8 = indicator for cloud detail
 N = Amount of cloud, oktas
 C = Type of cloud (FM12-0500)
 hshs= Height of cloud (FM12-1677)
 Remarks : COTRA = persistent condensation
 trails present.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for JANUARY 2016

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	shs	NChs	Date	Remarks
1	59	8	09	07	17	7.0	5.3	89	5.5	1013.6	7	043	60	6	2	7	5	4	2	/	83710	87615	88550	1		
2	25	8	20	08	16	10.9	10.1	95	7.7	993.6	5	006	58	6	5	8	5	2	/	83704	87707	88615	2			
3	65	7	20	07	14	8.1	7.0	93	6.2	984.2	6	032	21	6	2	7	8	4	/	81712	83630	87650	3	1Cu15 Cu hum jp NW&S vv40k ex p Clearance W		
4	58	7	19	06	13	9.5	7.1	85	6.3	981.7	5	002	80	8	1	6	8	4	6	3	84818	83645		4	1Ac65 4Ci72 Cu med Rainbow	
5	65	7	16	04	06	9.4	7.7	89	6.5	984.8	3	004	02	8	2	4	8	4	3	2	81813	83645	85365	5	1Sc35 3Ci70 Cu med	
6	58	8	22	04	07	7.8	6.4	91	6.0	997.0	3	005	05	2	2	8	5	3	/	85008	87612		6	/Sc45		
7	82	1	26	13	31	7.4	1.5	66	4.2	991.7	1	056	01	1	1	1	8	6	3	0	81835			7	1Sc40 1Ac62 Cu hum	
8	75	6	19	06	13	8.5	5.1	79	5.4	997.6	7	011	15	1	1	3	8	4	6	3	81818	83645	85358	8	1Ac62 jpN&S	
9	68	8	17	09	19	10.1	7.7	85	6.5	987.0	7	034	03	8	2	6	8	5	1	7	82815	83645	88272	9	4As65 Cu hum	
10	80	7	21	06	15	7.5	2.2	69	4.4	985.1	5	004	15	2	2	2	9	5	6	3	81825	81930		10	1Sc40 1Ac60 2Ci68 COTRA Cu hum jpSE	
11	60	7	25	06	14	6.7	4.9	88	5.4	982.4	3	013	80	8	2	7	8	4	/	81712	83815	87635	11	2Sc25		
12	65	5	26	12	26	6.2	3.4	82	4.8	999.6	3	021	25	8	2	4	8	4	7	0	81818	83656		12	1Sc40 3Ac60 Cu fra/hum jpS vv60k ex S	
13	80	7	18	04	12	6.3	1.0	69	4.1	1014.0	8	024	03	2	2	1	8	5	7	2	81825	85366	87070	13	1Sc40 Cu med	
14	86	2	29	14	30	5.3	-1.6	61	3.4	1008.4	3	025	01	8	1	2	1	6	0	0	82830			14	Cu hum	
15	84	1	32	10	21	5.0	-0.8	66	3.6	1022.6	2	015	01	1	1	1	8	5	0	1	81828			15	1Sc50 1Ci75 Cu hum	
16	75	3	27	04	07	4.4	-0.6	70	3.6	1029.2	5	011	01	1	1	3	0	9	7	0	81365	83368		16	Ac vir	
17	65	8	10	05	11	3.3	2.4	94	4.5	1024.0	7	024	21	6	2	8	5	3	/	81708	83620	88625	17			
18	75	8	11	07	14	5.3	0.7	72	4.0	1012.8	5	001	02	2	2	3	5	5	3	7	83625	88278		18	1Ac58 COTRA	
19	70	1	27	01	04	3.3	-10.7	35	1.7	1016.8	6	007	02	0	0	1	0	9	3	0	81363			19	Hoar mod in shade	
20	68	1	07	04	07	5.1	-0.5	67	3.6	1019.9	6	011	02	0	0	1	5	6	0	0	81630			20	Hoar thk in shade	
21	77	7	15	09	16	7.6	-0.4	57	3.7	1020.0	7	006	03	2	2	6	0	9	5	8	81359	83361	85363	21	7Cs75 COTRA	
22	68	6	23	07	14	11.3	10.2	93	7.6	1014.7	3	013	01	6	2	2	1	5	0	8	82815	85272		22	Cu hum COTRA	
23	62	7	19	08	14	10.2	7.6	84	6.4	1029.2	7	019	02	2	2	1	8	4	7	2	81812	83468	86072	23	1Sc20 1Ac65 Cu fra	
24	61	8	20	07	13	13.3	12.0	92	8.6	1026.2	6	604	02	2	2	8	5	3	/	83706	87708	88635	24			
25	65	7	21	14	24	13.1	10.1	82	7.6	1016.7	7	012	01	2	2	5	1	4	0	9	85816	85170		25	Cu hum	
26	58	8	21	16	29	10.3	8.9	91	7.1	1012.3	6	025	61	6	6	7	7	4	2	/	83710	87715	88520	26		
27	56	8	22	12	23	12.7	11.4	92	8.4	1005.7	5	003	62	6	2	7	5	3	2	/	84706	87612	88518	27		
28	84	6	22	09	21	8.7	2.1	63	4.3	1024.2	6	014	03	1	1	1	8	6	7	2	81830	84463	86070	28	1Sc35 1Ac65 Cu hum	
29	80	7	23	13	27	11.5	8.5	82	6.8	1016.7	8	007	02	5	2	7	5	4	/	85615	87620		29			
30	84	3	26	08	23	7.4	-2.1	51	3.3	1010.0	5	003	02	0	0	3	8	6	7	/	81840			30	2Sc45 1Ac65 Cu hum	
31	80	8	25	12	25	12.6	10.7	88	8.0	1006.4	2	007	20	5	2	8	5	4	/	87613	88620		31			

Mean vis = 22.4 km
 Mean cloud = 6.0 75%
 Mean wind speed = 8.1 kn
 Mean gust = 17 kn
 Mean TT = 8.3 °C
 Mean TdTd = 4.4 °C
 Mean RH = 78.1 %
 Mean r = 5.5 g/kg
 Mean PPP = 1007.4 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)
 N = Total cloud amount, oktas
 dd = Direction from which wind is blowing, tens of degrees true
 ff = 10 minute mean wind speed, knots
 gg = Highest gust in past hour, knots
 TT = Air temperature at 1.2 m, deg Celsius
 TdTd = Dew point temperature at 1.2 m, deg Celsius
 RH = Relative humidity at 1.2 m
 r = Humidity mixing ratio at 1.2 m, g/kg
 PPP = Air pressure reduced to sea level, mbar
 a = Characteristic of pressure tendency (Code FM12-0200)
 ppp = 3 hr pressure tendency, tenths of mbar
 ww = Present weather code (Code FM12-4677)
 W1, W2 = Past weather code (Code FM12-4561)-
 covers past 3 hours.
 Nh = Amount of low cloud present, oktas
 Cl = Type of low cloud (Code Fm12-0513)
 h = Height of low cloud (Code FM12-1600)
 Cm = Type of medium cloud (Code FM12-0515)
 Ch = Type of high cloud (Code FM12-0509)
 8 groups. 8 = indicator for cloud detail
 N = Amount of cloud, oktas
 C = Type of cloud (FM12-0500)
 hshs= Height of cloud (FM12-1677)
 Remarks : COTRA = persistent condensation
 trails present.

Wokingham Sunshine Hourly analysis 2016	Hour	01-Jan	02-Jan	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.51	0.50	0.53	0.51
9	0.00	0.00	0.00	0.05	0.23	0.00	0.00	0.67	0.00	0.00	0.00	1.00	0.88	0.43	1.00	1.00	1.00
10	0.00	0.00	0.00	0.85	0.90	0.00	0.00	0.92	0.00	0.69	0.00	0.87	0.00	0.08	1.00	1.00	1.00
11	0.00	0.00	0.00	0.29	0.50	0.00	0.00	0.04	0.00	1.00	0.77	0.00	0.00	0.00	1.00	0.98	0.98
12	0.00	0.00	0.00	0.28	0.32	0.00	0.51	0.64	0.05	1.00	0.60	0.00	0.39	0.00	0.66	0.63	0.63
13	0.00	0.00	0.00	0.65	0.02	0.00	0.73	1.00	0.01	0.87	0.20	0.00	0.51	0.29	0.26	1.00	1.00
14	0.00	0.00	0.00	0.13	0.01	0.00	0.87	0.17	0.00	0.32	0.00	0.05	0.04	0.48	0.91	0.61	0.61
15	0.00	0.00	0.00	0.22	0.01	0.00	0.59	0.15	0.00	0.10	0.00	0.78	0.00	0.99	0.83	0.58	0.58
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.19	0.05	0.00	0.00
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	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	0.00	0.00	0.00	2.48	2.07	0.00	2.72	3.59	0.06	3.99	1.57	3.22	2.34	2.96	6.23	6.30	

	Hour	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan	Mean
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.05	0.67	0.00	0.00	0.07	0.00	0.64	0.00	0.00	0.71	0.00	0.00	0.00	0.15	0.15
9	0.00	0.00	0.92	1.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	1.00	0.00	0.00	0.00	0.29	0.29
10	0.00	0.00	1.00	1.00	0.11	0.00	0.00	0.00	0.06	0.00	0.00	1.00	0.00	0.13	0.00	0.31	0.31
11	0.00	0.00	1.00	1.00	0.42	0.00	0.00	0.00	0.02	0.00	0.00	1.00	0.00	0.23	0.00	0.27	0.27
12	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.10	0.01	0.00	0.00	1.00	0.00	0.90	0.00	0.33	0.33
13	0.00	0.00	1.00	1.00	0.99	0.00	0.00	0.01	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.34	0.34
14	0.00	0.00	1.00	1.00	0.35	0.46	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.78	0.00	0.25	0.25
15	0.00	0.00	1.00	1.00	0.00	0.91	0.22	0.00	0.00	0.00	0.00	0.38	0.00	0.68	0.00	0.27	0.27
16	0.00	0.00	0.09	0.30	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.03	0.03
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	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	0.00	0.00	7.05	7.97	2.87	1.54	0.29	0.10	1.67	0.00	0.00	6.75	0.00	3.72	0.00	69.50	

JANUARY 2016	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	4.25	8.4	2021	-1.1	614	89.5	97.5	827	74.3	1117	2.64	4.66	6.2	2358	3.4	615	1015.75	1022.9	458	1002.1	2357	
2	9.22	10.5	1450	7.7	20	92.1	95.2	1441	87.0	506	8.01	6.77	7.6	1450	6.1	3	997.24	1002.3	0	993.0	1324	
3	6.57	8.7	2	3.5	601	90.0	96.2	1919	79.3	323	5.03	5.58	6.6	1336	4.2	602	990.90	1002.8	219	983.4	2351	
4	6.83	10.4	1322	4.0	38	90.0	95.9	145	74.9	1346	5.27	5.69	6.5	1208	4.9	38	982.23	983.5	9	981.3	2350	
5	6.28	9.2	1302	1.9	759	93.9	97.2	826	85.1	1330	5.37	5.73	6.8	1153	4.3	759	984.59	989.9	2355	981.1	126	
6	5.46	7.1	1324	4.1	537	95.7	97.7	918	91.8	2357	4.83	5.45	6.1	1152	5.0	1914	994.01	997.1	1518	989.3	2359	
7	6.39	9.3	953	2.0	2354	79.4	95.7	906	57.8	1557	2.96	4.91	7.0	955	3.5	2021	988.99	1000.5	2354	979.7	730	
8	4.75	9.2	1336	-1.5	435	88.1	96.6	614	74.7	1336	2.91	4.80	6.0	2353	3.3	435	998.85	1000.8	253	996.4	2359	
9	7.82	10.1	1945	5.7	407	88.9	95.3	53	76.6	1945	6.08	5.99	6.7	1345	5.0	2111	989.22	996.5	0	981.3	1947	
10	5.81	9.1	1230	3.9	2153	78.4	91.4	2350	63.3	1249	2.29	4.60	5.2	0	4.3	355	984.74	987.0	2011	982.2	1	
11	4.85	7.1	1334	2.7	2055	92.0	96.0	922	81.8	1346	3.66	5.08	5.7	1229	4.3	2346	982.88	990.8	2358	978.3	616	
12	5.00	7.2	1324	3.1	0	80.4	91.9	5	69.7	1036	1.87	4.40	4.8	1352	4.1	853	998.68	1010.1	2356	990.8	6	
13	4.19	6.9	1303	1.5	713	78.2	90.1	2346	63.9	1334	0.68	3.99	4.8	2359	3.5	416	1013.03	1017.0	1024	1006.2	2356	
14	3.01	5.3	1452	0.7	719	75.6	92.5	715	53.1	1606	-1.08	3.57	4.9	20	2.6	1635	1007.85	1015.2	2356	1003.7	754	
15	2.47	5.7	903	0.4	1912	77.2	91.1	1913	63.3	1233	-1.18	3.45	3.8	2315	3.1	20	1020.94	1026.6	2359	1015.2	1	
16	1.87	4.8	1329	-1.5	623	84.3	100.1	625	66.5	1316	-0.58	3.58	4.1	2359	3.2	840	1028.93	1030.5	1145	1026.5	0	
17	2.27	4.8	2329	0.2	712	95.3	102.4	507	83.4	1937	1.56	4.20	5.0	2358	3.9	712	1024.65	1028.1	1	1018.2	2359	
18	3.23	5.9	1303	-2.8	2359	85.3	99.8	2348	65.5	1431	0.91	4.08	5.1	31	3.0	2316	1014.26	1018.2	0	1012.4	1406	
19	-1.61	3.9	1335	-4.8	2337	86.9	101.8	647	26.6	1436	-4.00	2.84	3.6	1126	1.3	1436	1017.11	1019.3	2334	1015.2	38	
20	-2.09	5.6	1448	-6.3	733	91.7	101.4	2246	59.1	1304	-3.42	2.96	3.9	1437	2.3	748	1020.39	1021.9	2222	1019.0	18	
21	3.40	8.5	1321	-4.2	23	84.4	102.3	152	49.2	1426	0.76	4.02	5.1	1123	2.7	23	1020.57	1021.5	903	1019.0	2348	
22	7.78	11.9	1539	5.8	0	88.8	99.9	1355	78.6	13	6.02	5.84	8.0	1446	4.5	7	1017.23	1024.3	2359	1013.1	1213	
23	7.68	11.1	1336	4.0	808	93.7	101.9	811	80.5	1537	6.71	6.01	7.1	1305	4.9	747	1028.42	1031.3	1115	1024.3	0	
24	12.19	14.4	1236	8.7	0	95.6	100.8	645	87.2	1237	11.51	8.32	9.1	1205	6.8	1	1025.83	1027.1	1049	1024.0	2359	
25	10.87	13.5	1452	6.8	2359	82.1	94.0	507	69.2	1955	7.91	6.60	8.0	1410	5.2	2134	1020.10	1024.2	0	1016.5	1512	
26	9.32	11.6	2213	4.9	400	90.8	100.3	509	72.6	1100	7.86	6.634	8.23	2358	5.08	152	1015.74	1023.3	14	1010.6	2356	
27	11.13	13.1	1439	5.9	2356	88.7	97.0	1323	72.1	1706	9.31	7.42	8.9	1345	4.4	2351	1009.04	1017.8	2358	1004.8	1412	
28	6.21	10.0	2359	1.4	540	77.9	95.4	523	60.3	1448	2.51	4.52	6.3	2343	3.8	733	1023.24	1025.9	1125	1017.7	0	
29	11.05	11.9	1523	9.8	0	86.1	96.5	355	75.9	932	8.80	7.00	7.8	2123	6.2	1	1017.13	1022.0	0	1010.4	2356	
30	7.11	11.3	155	3.5	2353	75.9	95.9	0	45.1	1347	2.90	4.85	7.8	144	2.9	1347	1010.19	1012.7	2310	1007.8	446	
31	9.13	13.4	1322	3.4	11	88.1	99.9	1114	83.4	144	7.26	6.51	8.5	1316	4.2	22	1009.22	1013.9	2359	1005.5	1120	
Total																						
Mean	5.88	9.04		2.37		86.6	97.09		70.06		3.72	5.16	6.29		4.06		1008.13	1013.07		1003.51		
Max	12.19	14.44		9.77		95.7	102.40		91.80		11.51	8.32	9.09		6.75		1028.93	1031.35		1026.53		
Min	-2.09	3.88		-6.29		75.6	90.10		26.56		-4.00	2.84	3.64		1.28		982.23	983.49		978.25		

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

NOTE: T&RH sensor change on 15th, new RH and T awaiting calibration adjustment. T appx 0.2C high, RH appx 5% high near 100% RH.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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