

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 2011

Temperature (°C / °F)			Anomaly	Rank in the past 130 years			
Mean maximum	7.0	44.6	-0.8	58 th lowest			
Mean minimum	1.6	34.9	-0.2	55 th highest			
Daily mean	4.3	39.7	-0.5	62 nd highest			
Highest maximum	13.0	55.4	on 13 th	Lowest maximum	1.3	34.3	on 29 th
Highest minimum	10.8	51.4	on 14 th	Lowest minimum	-5.3	22.5	on 31 st
Mean grass minimum	-1.0	30.2	+0.1	Lowest grass minimum	-10.2	13.6	on 31 st
Mean earth @30 cm	5.2	41.4	-0.2	Earth @100 cm	7.0	44.6	
Frost duration (hrs)	97.6			Rain duration (hrs)	59.7		
Rainfall total (mm / in)	77.8	3.06	125 %	30 th highest			
Highest daily fall	17.8	0.70	on 17 th				
Number of: Dry days (<0.2mm)	14	Wet days (>0.9mm)	8	days ≥5mm	6		
Sunshine total (hrs) 49.7	Daily mean 1.60	79 %	Sunniest day 7.5	on 9 th			
N ^o days with: Air frost 13	Ground frost 18	Snow falling 4	Snow lying 0				
Thunder 1	Hail ≥5mm 0	Small hail/ice 1	Fog @09 1	Nil sun 13			
Air pressure MSL : Mean @09 GMT (mbar/in)	1018.6	+1.9	30.08				
Absolute highest	1040.5		30.73	on 21 st			
Absolute lowest	986.1		29.12	on 8 th			
Relative humidity : Overall mean	86.3 %	Lowest 54 %	on 28 th				
Mean water vapour (g/kg)	at 0900 GMT 4.7	at 1500 GMT 4.8					
Overall mean wind speed (mph) 6.9	Windiest 14.6	on 15 th	Max gust 40	on 15 th			
Wind direction (days) N 6 NE 6 E 0 SE 1 S 3 SW 9 W 2 NW 4							
Least windy day (mph) 2.1	on 3 rd	Calm; less than 0.5 mph (minutes)	681				

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

Notes: **Below Average Temperature and Sunshine, Above Average Rainfall.**

Temperature: Following the near record cold of last December, January saw a return to more normal, though still below average, temperatures. The daily mean is 3.7° higher than December's and it is also the mildest January since 2008, yet is 0.5° below the current 30 year average. In the longer-term, the mean is exactly on the 130 year median. The highest max is 0.6° above the median, and the lowest max is 0.5° above its median. The highest min is 2.7° above the median while the lowest min is 0.6° above the median. Earth temperatures at both 30cm and 1m depth are a little below average. There were 3 more air frosts than average. **Rainfall:** This has been a January with 25 % more rain than the climatological average, and wettest since 2008. The highest daily fall is second highest after 2010 since 2003, and the number of days with 10 mm or more is most since 2003. Despite the above, the number of dry days is close to average. Snow fell on 4 days, the 3rd, 6th, 7th and 29th, but it was either accompanied by rain or was too slight to accumulate, and there were no days with snow lying. Thunder occurred on the 14th. **Sunshine:** The sunshine total this January is well below average, though the total is over double the amount that we received in December. The number of sunless days is 2 more than average. Two periods were notably dull, the 12th to the 17th produced only 0.2 hours in total, and the 22nd to the 27th clocked up only 1.0 hours. Overall there were 25 days with <3 hours and 3 with =>6 hours. **Wind:** The mean wind speed is 1.2 mph below average but is highest since 2008. **Commentary: From the 1st to the 10th:** Temperatures were mostly below normal, with anomalies for daily max between -5.5° on the 3rd and -0.8° on the 1st, but up to +3.0° on the 7th. Anomalies for daily min were between +2.9° on the 1st and -4.9° on the 10th. It was mainly dry until the 5th, then the 6th and 7th gave a total of 25.9 mm, and there was another wet day on the 10th. Sunshine was meagre, with only the 9th having >50 % of the maximum, and 5 days having a total of only 0.1 hours. Light N'y winds on the 1st became moderate SW'y on the 4th, increasing fresh on the 5th, then to a light N'y on the 6th, followed by a moderate or fresh S'y or SW'y until the 10th. **From the 11th to the 18th:** This was a mild spell, with anomalies for daily max between +6.3° on the 13th and 0.0° on the 18th, and between +10.4° on the 14th and +2.1° on the 18th for daily min anomalies. Rain fell every day, with a very wet 16th and 17th, having a total of 30.8 mm. Sunshine was again meagre, apart from 5.0 hours on the 18th the rest of the period had only 1.2 hours. Moderate or fresh SW'y winds increased strong on the 15th before falling light N'y on the 17th. **From the 19th to the 31st:** Temperatures were near or below normal, with anomalies for daily max between -5.5° on the 21st and 29th, and +1.0° on the 25th. For daily min, anomalies were between -6.3° on the 31st and +3.5° on the 24th. 9 of the 13 days were dry and the rest together only produced 1.7 mm. Sunshine was still rather poor, just the 21st, 30th and 31st having more than 50 % of the max. Winds were mainly N'y, light until the 21st and again after the 29th otherwise moderate.

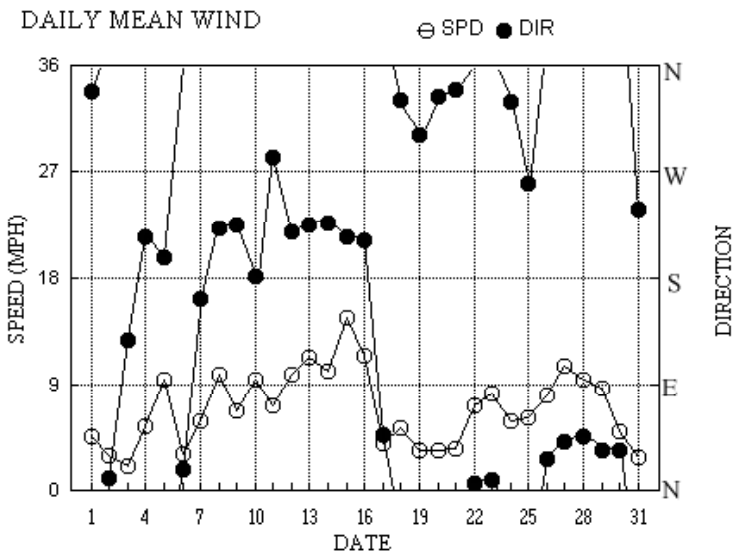
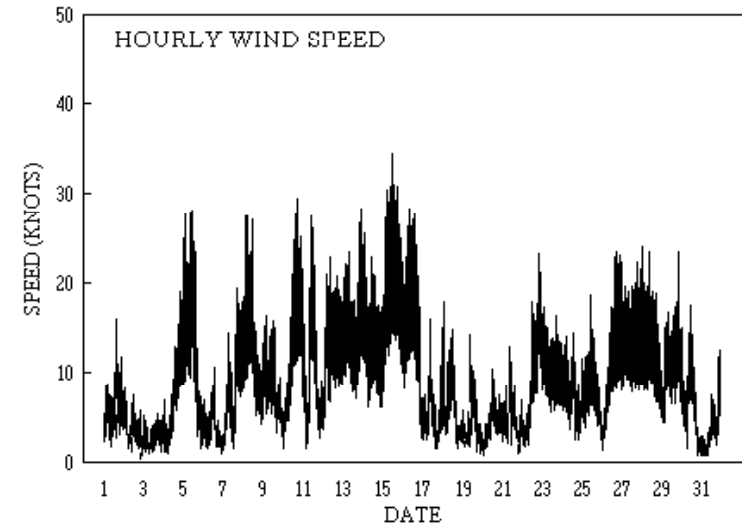
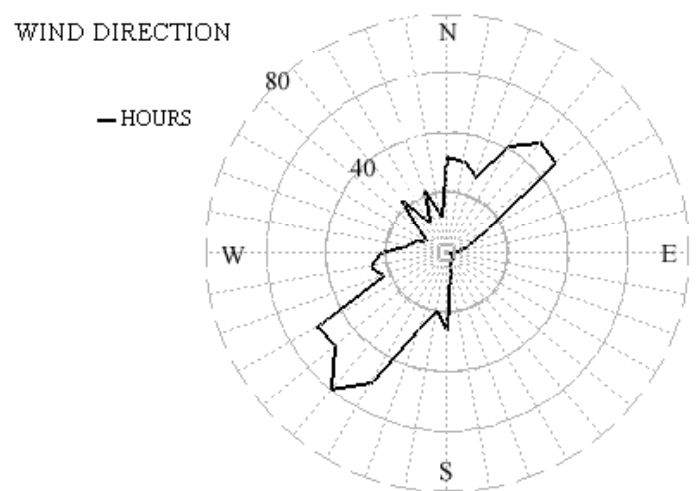
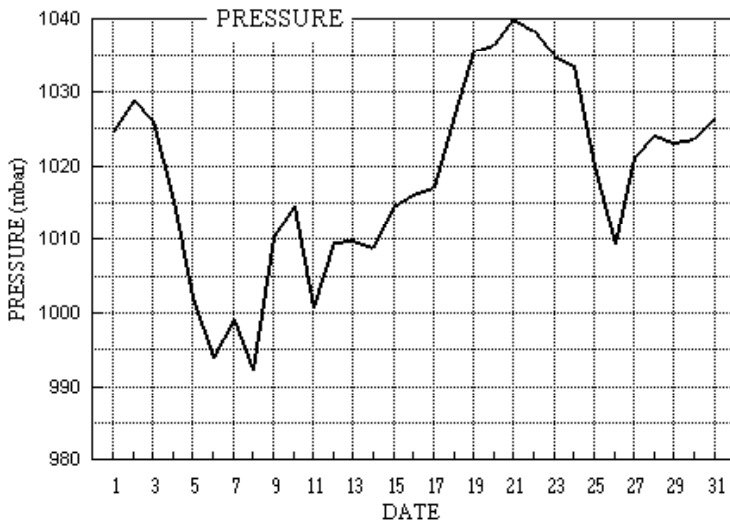
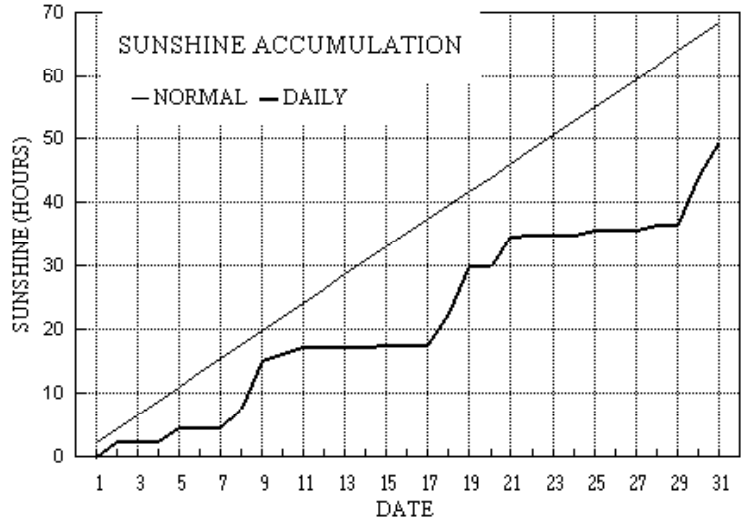
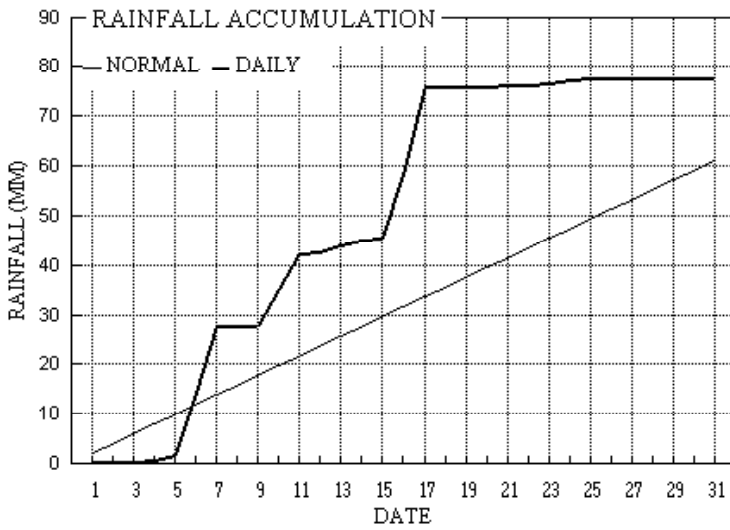
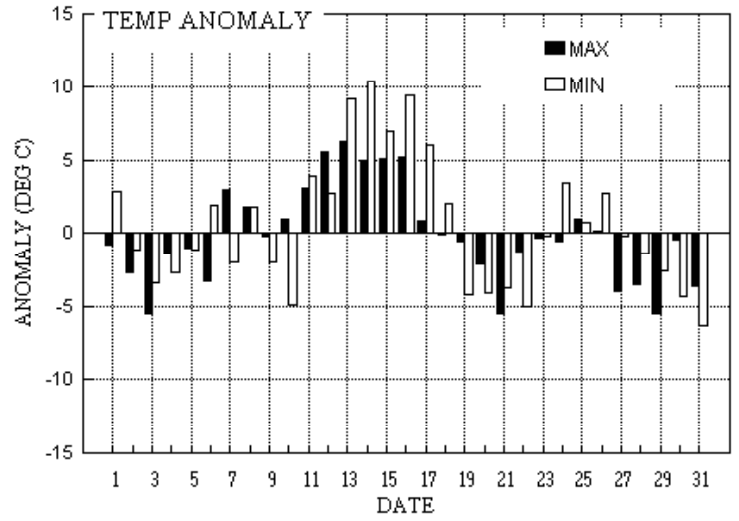
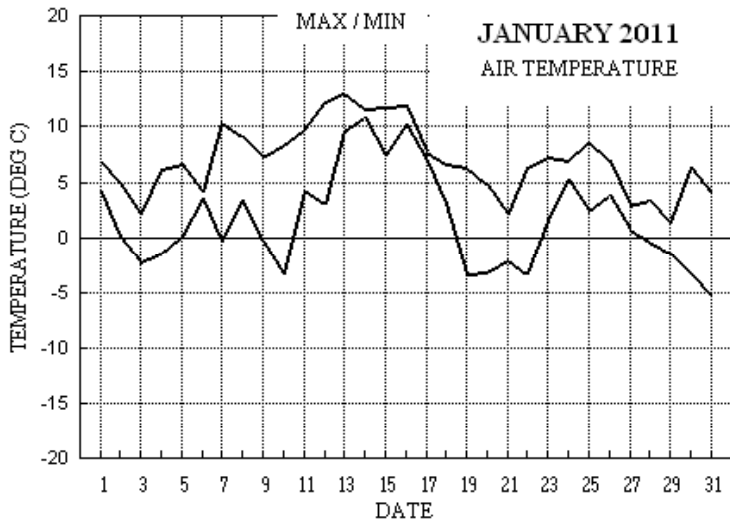
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
-0.9°	-1.0°	175 %	79 %	+2.9°	+4.2°	205 %	69 %	-2.1°	-1.5°	10 %	89 %

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for January 2011



Month: JANUARY 2011

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff HH	Rain hrs							
1	6.8	4.1	0.3	3.9	4.9	6.4	0.0	0.0	1024.7	0	0	0	0	338	2.3	3.9	28	16	1622	27	7	16	0.3	
2	4.9	0.1	0.0	-1.8	5.0	6.6	2.4	0.0	1028.9	0	1	0	0	10	2.2	2.5	33	9	0237	25	4	02	0.0	
3	2.1	-2.2	tr	-5.6	4.6	6.7	0.0	6.5	1026.0	1	1	1	0	128	0.9	1.8	137	6	1829	142	3	18	0.0	
4	6.2	-1.5	0.4	-2.7	4.3	6.7	0.0	0.0	1015.1	1	1	0	0	215	4.3	4.7	220	19	2048	209	10	21	0.6	
5	6.6	0.1	1.1	1.0	4.4	6.7	2.3	0.0	1002.0	0	0	0	0	198	7.9	8.1	183	28	1114	191	13	10	2.8	
6	4.2	3.5	12.4	1.3	4.6	6.8	0.0	0.1	994.0	0	0	1	0	17	0.3	2.6	38	11	1330	26	5	12	9.2	
7	10.4	-0.3	13.5	-3.6	4.4	6.8	0.1	0.6	999.0	1	1	1	0	162	2.4	5.1	200	20	1713	192	9	16	7.7	
8	9.2	3.4	tr	6.6	5.0	6.7	2.9	0.3	992.2	0	0	0	0	223	7.2	8.5	171	28	0322	259	13	11	0.0	
9	7.2	-0.3	tr	-5.4	4.9	6.7	7.5	1.8	1010.4	1	1	0	0	226	5.5	5.9	223	17	0312	228	9	03	0.0	
10	8.4	-3.3	7.2	-8.1	4.0	6.7	1.2	5.0	1014.5	1	1	0	0	181	8.0	8.1	183	30	1841	167	12	20	8.0	
11	9.8	4.3	7.3	0.5	4.3	6.7	1.0	0.0	1000.7	0	0	0	0	283	3.3	6.3	321	28	1005	308	13	12	6.0	
12	12.3	3.1	0.4	-1.0	4.6	6.6	0.0	0.0	1009.7	0	1	0	0	220	8.1	8.6	238	23	1004	196	11	05	0.5	
13	13.0	9.6	1.5	10.1	5.7	6.6	0.1	0.0	1009.8	0	0	0	0	225	9.7	9.8	234	29	2251	225	13	22	2.6	
14	11.7	10.8	0.9	10.5	6.8	6.8	0.0	0.0	1008.8	0	0	0	1	227	8.7	8.8	234	26	0250	232	12	02	0.3	
15	11.8	7.4	0.3	4.1	6.9	7.0	0.1	0.0	1014.4	0	0	0	0	215	12.7	12.7	211	35	1143	218	15	11	0.4	
16	12.0	10.3	13.0	8.3	7.2	7.3	0.0	0.0	1016.2	0	0	0	0	212	9.8	9.9	209	29	0837	210	13	10	7.9	
17	7.7	6.9	17.8	2.5	7.5	7.5	0.0	0.0	1017.1	0	0	0	0	47	1.7	3.4	28	16	1003	18	7	10	11.3	
18	6.7	3.0	0.0	0.9	7.2	7.7	5.0	2.3	1027.0	0	0	0	0	330	3.5	4.6	5	18	0210	14	8	02	0.0	
19	6.3	-3.3	tr	-7.9	6.2	7.8	7.4	13.2	1035.7	1	1	0	0	302	2.2	2.9	341	14	1020	337	7	10	0.0	
20	4.7	-3.2	tr	-7.8	5.1	7.8	0.0	5.5	1036.5	1	1	0	0	333	2.6	3.0	6	11	1359	3	5	12	0.0	
21	2.1	-2.0	0.2	-4.0	5.0	7.6	4.7	10.5	1040.0	1	1	0	0	340	2.7	3.1	322	13	0858	323	6	09	xx	
22	6.4	-3.3	0.1	-8.2	4.5	7.4	0.2	5.0	1038.4	1	1	0	0	6	5.5	6.2	28	24	2156	29	14	21	xx	
23	7.3	1.5	0.4	2.5	4.7	7.3	0.1	0.0	1034.9	0	0	0	0	9	7.1	7.1	25	18	0357	21	9	02	0.3	
24	7.0	5.2	0.4	4.1	5.2	7.2	0.0	0.0	1033.6	0	0	0	0	329	4.4	5.1	309	15	1331	310	8	14	0.5	
25	8.6	2.5	0.6	-3.2	5.3	7.1	0.7	0.0	1019.9	0	1	0	0	261	5.2	5.3	290	19	1142	278	8	11	1.3	
26	7.0	3.8	tr	-1.0	5.6	7.2	0.0	0.0	1009.3	0	1	0	0	27	6.4	7.0	48	24	1703	43	11	17	0.0	
27	2.9	0.8	0.0	-1.7	5.6	7.2	0.0	0.0	1021.0	0	1	0	0	41	9.0	9.1	57	22	1920	35	11	08	0.0	
28	3.3	-0.4	0.0	-2.6	5.0	7.2	1.0	10.1	1024.2	1	1	0	0	46	8.1	8.2	36	24	0053	54	10	10	0.0	
29	1.3	-1.5	tr	-5.1	4.6	7.2	0.0	6.1	1023.1	1	1	1	0	34	7.5	7.5	29	24	2104	31	10	21	0.0	
30	6.4	-3.3	0.0	-8.4	4.3	7.1	7.4	13.7	1023.7	1	1	0	0	33	3.9	4.3	64	18	1148	50	8	11	0.0	
31	4.0	-5.3	0.0	-10.2	3.8	6.9	5.6	16.9	1026.4	1	1	0	0	238	2.2	2.4	217	13	2217	236	5	22	0.0	
Total			77.8				49.7	97.6																59.7
Mean	7.0	1.6		-1.0	5.2	7.0	1.60	3.1	1018.6					253	1.3	6.0								
Anom	-0.8	-0.2	125%	+0.1	-0.2	-0.5	79%	99%	+1.9															
Daily mean		4.3							Pressure, abs highest =	1040.5	on 21st													
Anom		-0.5							Pressure, abs lowest =	986.1	on 8													

Number of days with:

Air frost = 13 Ground frost = 18 Nil sun = 13
Snow falling = 4 Snow lying = 0 Thunder = 1
Hail=>5mm = 0 Hail<5mm or ice = 1 Fog at 09GMT = 1

The climatological period used for the anomalies is now 1981 to 2010

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 2011

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChs	NChs	Date	Remarks
1	59	8	28	03	05	5.2	2.9	85	4.6	1024.7	3	004	05	2	2	7	5	5	/	/	81625	88628			1		
2	72	7	01	01	04	1.2	-0.0	91	3.7	1028.9	2	012	02	2	2	7	5	6	/	/	87645				2		
3	59	7	06	03	04	-1.4	-1.9	96	3.2	1026.0	7	005	10	2	2	6	5	7	3	1	82650	86656			3	/Ac68 /Ci75 COTRA Sc vir Hoar slt Gnd part frzn	
4	05	7	22	02	04	0.2	-0.2	97	3.7	1015.1	7	004	46	4	2	1	5	6	3	8	81640	87272			4	1Ac65 COTRA	
5	75	1	18	08	19	4.1	0.2	76	3.9	1002.0	7	016	03	0	0	1	5	7	0	1	81656				5	1Ci80 COTRA	
6	11	8	05	03	06	3.9	3.6	98	5.0	994.0	0	002	61	6	2	6	7	0	2	/	83701	88535			6		
7	20	8	07	04	11	3.4	3.2	98	4.8	999.0	7	015	65	6	2	7	7	2	2	/	85703	87705	88510		7		
8	80	7	25	11	21	9.2	7.1	87	6.4	992.2	2	065	80	8	6	7	8	4	/	/	84815	86640			8	Cu fra/med	
9	82	1	23	07	12	1.6	-0.4	87	3.7	1010.4	2	026	02	0	0	0	0	9	0	1	81075				9	Hoar thk Gnd sfc frzn	
10	65	7	18	06	14	4.3	3.6	96	4.9	1014.5	7	010	03	2	2	1	8	4	3	2	81815	83367	87070		10	Cu med Hoar slt Gnd frzn	
11	62	7	25	06	13	7.5	6.8	96	6.2	1000.7	2	031	02	6	2	7	5	3	/	/	82708	84612	87635		11		
12	50	8	22	07	14	9.7	9.3	97	7.3	1009.7	7	011	20	6	5	8	7	2	/	/	86705	88708			12		
13	60	7	23	10	20	12.2	11.0	92	8.2	1009.8	2	011	15	2	2	7	6	3	3	1	81708	87710			13	/Ac65 /Ci75 COTRA jpNW	
14	68	7	20	09	18	10.9	10.0	94	7.6	1008.8	0	001	60	6	2	7	7	3	/	2	83708	86710	86650		14	/Ci70	
15	65	8	22	14	28	10.7	7.3	79	6.3	1014.4	2	002	02	2	2	7	8	4	7	/	83818	85625	88460		15	/Ac57 Cu hum	
16	67	7	21	14	29	11.4	8.0	80	6.6	1016.2	2	003	02	2	2	7	5	4	/	/	87618				16	/Sc56	
17	18	8	01	06	10	7.6	7.4	99	6.3	1017.1	6	013	65	6	6	7	7	0	2	/	81701	85703	87705		17	8Ns10	
18	57	1	31	05	10	3.2	2.4	95	4.4	1027.0	2	033	10	1	1	1	6	3	0	0	81706				18		
19	59	2	22	02	03	-1.2	-1.4	99	3.3	1035.7	3	007	10	0	0	1	0	9	3	1	81367				19	2Ci75 Hoat thk. Gnd frzn	
20	58	7	31	03	05	1.9	0.9	93	3.9	1036.5	3	010	05	2	2	7	5	4	/	/	85615	87640			20	Hoar slt Gnd part frzn	
21	40	7	32	07	13	-2.0	-3.1	92	3.0	1040.0	3	013	05	2	2	7	6	2	/	1	86704	84638			21	/Ci75 COTRA Hoar slt	
22	58	7	32	03	07	1.5	0.2	91	3.8	1038.4	6	005	60	6	2	7	5	4	/	/	86710	87625			22	Gnd part frzn	
23	57	7	01	07	13	5.3	3.6	89	4.8	1034.9	3	003	60	6	2	7	5	4	/	/	86710	87618			23	/Sc45	
24	65	7	36	05	12	5.5	2.8	83	4.5	1033.6	0	002	14	2	2	7	5	7	/	/	87656				24	Sc str pe vir	
25	75	6	26	06	12	6.1	3.6	83	4.9	1019.9	7	014	01	2	2	6	5	5	/	1	81620	84635	85645		25	/Ci75	
26	63	8	01	05	11	5.9	4.9	93	5.4	1009.3	3	008	02	6	2	8	5	4	/	/	83710	87620	88630		26		
27	84	8	04	10	19	1.3	-3.7	69	2.8	1021.0	2	018	14	2	2	8	5	6	/	/	81630	84635	88640		27	Sc du op vir	
28	81	7	05	09	20	0.4	-5.3	66	2.5	1024.2	3	004	02	2	2	7	5	6	/	/	87630				28		
29	59	7	03	09	17	0.1	-3.7	76	2.9	1023.1	3	013	05	2	2	7	5	4	/	/	87618				29		
30	83	6	03	06	10	0.4	-2.0	84	3.2	1023.7	1	009	02	1	1	6	5	5	0	0	86625				30	Hoar slt Gnd frzn	
31	59	3	20	01	02	-3.3	-3.8	97	2.8	1026.4	2	015	10	0	0	3	5	5	0	1	83620				31	1Ci78 Hoar mod Gnd frzn	

Mean vis = 15.4 km

Mean cloud = 6.3 79%

Mean wind speed = 6.2 kn

Mean gust = 12 kn

Mean TT = 4.1 °C

Mean TdDd = 2.4 °C

Mean RH = 89.0 %

Mean r = 4.7 g/kg

Mean PPP = 1018.6 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdDd = 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 2011

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	60	8	01	03	10	6.7	4.7	87	5.2	1024.3	5	003	05	2	2	8	5	4	/	/	81710	87612					1	/Sc30	
2	75	7	03	04	05	3.2	-1.0	74	3.5	1028.7	5	003	02	2	2	7	8	4	/	1	81818	87645					2	2Sc40 /Ci78 Cu med	
3	56	8	05	02	05	1.1	-0.6	88	3.6	1023.1	7	020	05	7	2	8	5	6	/	/	82635	86645	88650				3		
4	58	8	22	06	12	3.4	0.5	81	3.9	1012.0	7	015	62	6	2	7	5	5	/	8	83620	86640					4	/Cs75 COTRA	
5	60	8	19	10	24	4.8	2.2	83	4.5	996.9	6	026	21	6	2	8	5	4	/	/	82712	86615	88620				5		
6	62	8	36	02	07	2.7	2.2	97	4.5	994.1	3	008	61	7	6	1	7	3	2	/	81708	88550					6		
7	60	8	18	05	09	9.9	9.3	96	7.4	996.8	6	017	60	6	2	7	5	4	2	/	83712	87618	88550				7		
8	82	1	28	06	15	6.4	1.0	68	4.1	1000.7	2	027	02	1	1	1	8	5	0	1	81825						8	1Sc30 1Ci75 Cu fra/hum	
9	82	1	26	07	15	6.1	-0.5	63	3.7	1014.3	2	018	02	0	0	1	1	5	0	0	81828						9	Cu fra Hoar slt in shade	
10	80	7	19	12	26	7.6	4.2	79	5.1	1009.4	6	035	02	2	2	2	1	4	3	2	82818	87075					10	2Ac68 COTRA Cu hum	
11	82	7	32	09	22	6.1	1.3	71	4.2	1010.4	2	054	02	2	2	7	5	5	/	/	87622						11		
12	62	8	23	09	19	12.1	10.8	92	8.0	1009.2	5	003	60	6	2	8	5	3	/	/	87708	88615					12		
13	61	7	22	08	19	12.6	11.3	91	8.2	1010.2	6	006	15	5	2	7	6	3	3	1	82707	87710					13	/Ac60 /Ci75 jpNW vv 30k exNW	
14	59	8	23	10	20	11.0	8.3	84	6.8	1008.7	3	001	17	6	2	7	9	4	2	/	82915	83818	88460				14	4Sc40 tINE jpWtoNE	
15	65	7	22	15	29	10.9	7.6	80	6.5	1014.4	6	010	02	6	2	7	5	4	/	8	82618	87622					15	/Cs75	
16	58	8	21	11	25	11.0	8.8	86	7.0	1015.6	5	004	58	8	6	8	5	4	/	/	82712	87615	88620				16		
17	68	7	26	01	08	6.7	5.2	90	5.5	1019.4	2	018	62	6	2	3	5	3	2	/	81708	83635	87545				17	vv30kN	
18	80	2	32	06	10	6.0	2.1	76	4.3	1029.8	3	007	02	1	1	2	1	5	0	0	82820						18	Cu hum/fra	
19	61	5	30	04	09	5.8	2.4	79	4.4	1034.8	5	007	02	1	1	0	0	9	0	1	85075						19	COTRA	
20	59	7	33	04	10	4.1	2.2	87	4.3	1036.8	7	002	05	2	2	7	6	3	/	/	83708	87710					20		
21	61	1	35	04	08	2.0	-2.9	70	3.0	1038.5	6	009	02	1	1	0	0	9	0	1	81080						21	COTRA	
22	61	7	36	07	17	5.5	3.2	85	4.7	1036.2	6	011	02	6	2	7	8	4	/	/	83812	87635					22	Cu hum/fra	
23	59	8	36	07	14	7.1	4.8	85	5.2	1034.1	6	007	05	2	2	8	5	4	/	/	83712	85615	88645				23		
24	78	8	31	07	13	6.6	1.7	71	4.2	1029.9	6	024	02	2	2	8	8	5	/	/	81822	88650					24	2Sc45	
25	72	8	26	06	14	7.8	5.8	87	5.7	1015.2	7	026	60	6	2	8	5	4	/	/	83715	88620					25		
26	62	7	02	08	15	6.9	4.4	84	5.2	1009.7	3	002	50	6	5	7	5	4	/	/	85612	83625	86650				26		
27	81	8	05	09	18	2.6	-2.3	70	3.2	1021.6	5	004	02	2	2	8	8	5	/	/	81822	83635	88640				27	Cu hum	
28	80	6	05	09	19	1.4	-5.1	62	2.6	1022.7	7	014	02	2	2	6	5	6	0	0	86630						28		
29	59	8	03	08	16	0.9	-3.3	73	2.9	1022.7	5	001	05	7	2	8	5	4	/	/	88618						29		
30	82	3	06	05	13	4.9	-2.0	61	3.3	1022.5	6	008	01	1	1	2	5	5	0	1	82628						30	2Ci78 COTRA	
31	62	3	24	04	07	2.7	-2.3	69	3.2	1025.6	7	013	02	0	0	1	5	5	0	1	81620	83078					31	COTRA	

Mean vis = 18.5 km

Mean cloud = 6.4 79%

Mean wind speed = 6.7 kn

Mean gust = 15 kn

Mean TT = 6.0 °C

Mean TdDd = 2.7 °C

Mean RH = 79.6 %

Mean r = 4.8 g/kg

Mean PPP = 1018.3 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

TdDd = 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-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
Sunshine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
	8	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.01	0.45	0.00	0.03	0.00	0.00	0.00	0.00	0.00
	9	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.57	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10	0.00	0.03	0.00	0.00	0.71	0.00	0.00	0.04	1.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
	11	0.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
	12	0.00	1.00	0.00	0.00	0.13	0.00	0.03	0.00	1.00	0.56	0.44	0.00	0.00	0.00	0.00	0.00
	13	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.33	1.00	0.51	0.35	0.00	0.00	0.00	0.03	0.00
	14	0.00	0.02	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	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
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		0.00	2.45	0.00	0.00	2.28	0.00	0.03	2.92	7.52	1.19	0.98	0.00	0.01	0.00	0.03	0.00

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
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
8	0.00	0.54	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.06
9	0.00	1.00	0.91	0.00	0.00	0.00	0.12	0.00	0.30	0.00	0.00	0.01	0.00	0.95	0.00	0.19
10	0.00	1.00	0.74	0.00	0.44	0.01	0.00	0.00	0.39	0.00	0.00	0.19	0.00	0.92	0.00	0.18
11	0.00	0.34	1.00	0.00	0.64	0.01	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.83	0.92	0.19
12	0.00	0.29	1.00	0.00	0.26	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.22
13	0.00	0.54	1.00	0.00	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	1.00	1.00	0.24
14	0.00	0.70	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	1.00	1.00	0.24
15	0.00	0.55	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	1.00	1.00	0.22
16	0.00	0.04	0.27	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.65	0.06
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
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	0.00	5.01	7.36	0.00	4.65	0.18	0.12	0.00	0.69	0.00	0.00	0.99	0.00	7.41	5.56	49.38

January 2011	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	5.02	6.9	1432	3.3	2354	87.3	94.4	1808	78.5	254	3.07	4.68	5.4	1615	4.2	317	1025.18	1027.2	2354	1024.1	1355	0.3
2	2.17	4.7	1304	0.2	659	83.5	95.7	700	63.9	1314	-0.40	3.63	4.3	17	3.2	2030	1028.51	1029.6	1046	1027.0	36	0.0
3	0.52	2.0	1837	-2.0	720	86.6	96.7	902	75.0	39	-1.48	3.37	3.7	1538	3.0	720	1024.31	1028.5	0	1019.0	2356	0.0
4	2.68	5.6	2347	0.0	922	89.4	98.4	1015	74.9	1406	1.09	4.12	5.1	2317	3.6	0	1013.24	1019.1	0	1007.5	2359	0.3
5	5.32	6.6	1943	3.5	817	84.3	98.2	2258	63.4	1142	2.79	4.73	6.0	1943	3.7	1147	999.76	1007.6	2	994.4	2156	0.5
6	3.20	5.2	0	-0.2	2359	97.7	99.3	2350	95.9	1602	2.87	4.75	5.5	0	3.8	2359	995.85	1002.2	2330	993.1	1240	9.1
7	5.82	10.4	1901	-0.5	34	96.6	99.6	207	88.9	2223	5.30	5.74	7.6	1440	3.7	34	998.60	1002.6	216	994.8	2358	9.1
8	6.34	9.8	632	-0.3	2302	83.0	94.4	608	64.7	1428	3.61	5.15	7.2	618	3.4	2302	997.04	1004.6	2354	986.1	603	4.2
9	2.51	6.8	1339	-2.0	2359	81.9	96.2	2327	57.2	1340	-0.39	3.69	4.1	1155	3.1	2359	1012.13	1018.2	2132	1004.5	4	0.2
10	4.23	8.2	1222	-2.9	202	89.1	98.5	443	74.6	1841	2.51	4.63	5.6	1113	3.0	202	1011.17	1018.0	51	1000.4	2358	2.2
11	5.77	8.6	1302	3.0	2234	84.0	97.9	623	65.6	1245	3.17	4.84	6.4	923	3.8	1840	1006.49	1017.3	2148	996.8	402	3.8
12	9.50	12.4	1444	3.8	221	93.0	97.5	834	82.4	4	8.43	7.00	8.2	1416	4.1	3	1010.75	1016.5	11	1008.9	1712	6.0
13	12.06	13.0	1139	11.3	1738	92.6	95.7	1750	87.9	2343	10.91	8.12	8.6	1059	7.6	2359	1009.61	1010.8	1047	1008.3	601	1.2
14	10.43	12.1	38	7.3	2258	88.0	94.5	912	83.4	1459	8.53	6.95	7.8	218	5.6	2257	1009.95	1015.3	2359	1007.8	112	1.3
15	10.23	11.4	1334	7.4	12	81.5	90.5	135	76.1	2222	7.19	6.28	6.6	1749	5.7	11	1015.05	1016.7	2348	1012.9	701	0.1
16	10.89	12.1	1213	8.5	2343	85.8	96.9	2354	75.1	1009	8.56	6.89	7.6	2015	5.9	1	1016.35	1019.7	2359	1015.3	1413	3.0
17	6.91	9.0	23	5.5	2354	96.0	98.7	808	87.7	1411	6.32	5.91	6.9	23	5.3	1734	1019.07	1021.1	2346	1015.7	1008	17.2
18	3.66	6.8	1339	-0.7	2138	91.2	98.5	2248	72.6	1555	2.29	4.43	5.5	0	3.4	2356	1028.09	1034.3	2357	1020.6	12	5.3
19	0.88	6.4	1310	-2.9	653	93.8	99.3	642	76.0	1321	-0.08	3.71	4.6	1253	3.0	653	1035.16	1036.0	1024	1034.2	5	0.2
20	2.11	4.8	1252	-2.7	358	91.8	99.5	432	85.2	1232	0.89	3.97	4.5	1328	3.0	359	1036.72	1038.5	2305	1035.3	119	0.1
21	0.37	3.5	2	-2.8	2204	86.7	97.3	2225	67.9	1534	-1.65	3.29	4.3	237	2.9	2135	1039.34	1040.5	2332	1038.0	26	0.0
22	3.13	6.5	2337	-1.5	334	88.5	96.6	408	77.7	2019	1.37	4.12	5.1	2359	3.2	334	1037.50	1040.4	0	1035.2	2045	0.4
23	6.19	7.3	1528	4.9	614	85.8	91.0	338	81.5	2050	3.99	4.94	5.3	1513	4.6	614	1034.54	1035.4	1	1033.8	1523	0.0
24	5.47	7.0	1310	2.7	2222	83.2	92.4	201	65.4	1334	2.81	4.56	5.2	204	3.9	1334	1031.10	1034.3	54	1025.4	2359	0.8
25	6.61	8.7	1139	3.2	1	85.9	95.3	2348	74.7	1140	4.39	5.19	5.8	2154	4.2	1	1017.45	1025.4	0	1010.0	2355	0.4
26	5.12	7.2	1116	1.8	2359	88.6	97.2	319	76.7	2339	3.37	4.87	5.7	10	3.3	2349	1010.95	1017.2	2359	1008.3	546	0.2
27	1.48	3.0	1255	0.3	2313	68.9	78.5	23	57.8	1944	-3.63	2.89	3.4	0	2.4	1944	1021.24	1024.5	2323	1017.0	0	0.0
28	0.25	3.2	1117	-1.4	2201	67.8	81.3	2308	53.7	1118	-5.06	2.58	2.9	1102	2.4	1250	1023.34	1024.6	950	1021.9	2358	0.0
29	0.34	1.4	1209	-0.5	20	75.9	80.4	10	71.2	1412	-3.41	2.92	3.1	1209	2.8	1043	1022.83	1024.2	2312	1021.4	421	0.0
30	0.50	6.1	1304	-3.1	647	79.7	94.1	2202	56.0	1306	-2.77	3.07	3.6	1148	2.7	647	1023.43	1025.1	2349	1022.2	1527	0.0
31	-0.83	3.2	1345	-4.7	740	86.8	97.1	646	66.8	1344	-2.85	3.04	3.5	1135	2.5	740	1025.94	1027.3	1044	1024.7	546	0.1
Total																						66.0
Mean	4.48	7.09		1.24		86.3	94.89		73.49		2.31	4.65	5.45		3.77		1018.73	1022.67		1014.99		
Max	12.06	13.04		11.29		97.7	99.60		95.90		10.91	8.12	8.61		7.63		1039.34	1040.54		1038.03		
Min	-0.83	1.38		-4.71		67.8	78.50		53.71		-5.06	2.58	2.93		2.36		995.85	1002.16		986.07		

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
 Rtot = 00-24 GMT rainfall total from AWS tipping bucket raingauge, mm
 Time = hours and minutes in GMT of extreme values

Change to the Wokingham Monthly Report pages.

With effect from the August 2010 report, page 6 containing RH statistics from the 1 minute AWS readings will be replaced with a page containing hourly values of sunshine for each day of the month, derived from the R&D electronic sunshine detector.

If any user of these reports has a requirement for the monthly table of RH statistics, they should notify me by e-mail to b.j.burton@btinternet.com

Bernard Burton 1 September 2010

Appendix 1.

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

Average: Generally refers to the 30 year climatological average, currently 1971 to 2000. This will be next updated in 2010. 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 1971 to 2000 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/wwwp1.html>

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

/ = Types of high cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

/ = Cloud type not visible owing to darkness, fog, duststorm, or other analogous phenomena.

hshs = Height of cloud above station level reported by type C

00 to 50 = Height in hundreds of feet

51 to 55 Not used

56 to 80 = Subtract 50 to obtain cloud height in thousands of feet

81 to 88 = Height of cloud between 35000 and 70000 ft in 5000 ft steps.