

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

OCTOBER 2010

Temperature (°C / °F)			Anomaly	Rank in the past 129 years			
Mean maximum	15.2	59.4	+0.4	40 th highest			
Mean minimum	6.8	44.2	+0.1	42 nd highest			
Daily mean	11.0	51.8	+0.2	39 th highest			
Highest maximum	22.7	72.9	on 8 th	Lowest maximum	9.0	48.2	on 20 th
Highest minimum	14.9	58.8	on 9 th	Lowest minimum	-3.5	25.7	on 21 st
Mean grass minimum	4.1	39.4	0.0	Lowest grass minimum	-7.5	18.5	on 21 st
Mean earth @30 cm	12.9	55.2	+0.1	Earth @100 cm	14.4	57.9	
Frost duration (hrs)	24.3			Rain duration (hrs)	48.2		
Rainfall total (mm / in)	61.4	2.42	92 %	64 th lowest			
Highest daily fall	18.1	0.71	on 2 nd				
Number of: Dry days (<0.2mm)	18	Wet days (>0.9mm)	9	days ≥5mm	5		
Sunshine total (hrs)	119.6	Daily mean	3.86	104 %	Sunniest day	10.3	on 11 th
N ^o days with: Air frost	4	Ground frost	8	Snow falling	0	Snow lying	0
Thunder	1	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0 Nil sun 5
Air pressure MSL : Mean @09 GMT (mbar/in)	1013.5		-1.7	29.93			
Absolute highest	1030.2			30.42		on 25 th	
Absolute lowest	992.1			29.30		on 3 rd	

Anomaly = departure from 1971 to 2000 average (degrees C, percent and mbar).

Notes: **Temperature Above Normal. Rainfall Near Normal. Sunny.**

Temperature: The mean temperature this October is lower than last year's, but higher than in 2008. Compared to the past 35 years, it is 0.2° below the average, but it is 0.5° above the long-term median. The highest max is 2.5° above the median and is highest since 2002. The lowest max is close to its median. The highest min is 1.8° above the median while the lowest min is 2.5° below the median, is lowest since 1997 and equal 2nd lowest with 1983 in the past 35 years. The lowest grass min is also lowest since 1997. Earth temperatures are near normal at both 30 cm and 1 m depths. The number of hours with air frost is 15.6 above average, and most since 2003. The first air frost of the season was on the 17th after 156 frost free days, compared with an average of 189 days. **Rainfall:** This is the wettest October since 2006, although the total is 9.4 mm below the average for the past 35 years. It is, however, exactly on the long-term median. The amount that fell on the wettest day is also highest since 2006, and is 1.8 mm above the median. The number of dry days is close to average, and a dry spell of 9 days ended on the 14th. Thunder occurred on the 19th. The duration of measurable rain is 4 hours less than average. The highest rainfall rate was 39 mm/hr on the 16th. **Sunshine:** This month we have had more sun than last October, but less than in 2008, and there have been only 3 sunnier Octobers since 1998. The number of sunless days is equal to the average. Overall there were 14 days with <3 hours, 11 with =>6 hours, and 4 with =>9 hours. **Wind:** The overall mean wind speed this month is 6.1 mph and is close to the average. The 29th was the windiest day, mean 9.9 mph, but the month's highest gust of 32 mph was on the 19th. The least windy day was the 25th, mean 2.2 mph, and there were 537 minutes (8.9 hours) with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,3 NE,6 E,2 SE,0 S,7 SW,7 W,4 NW,2. **Humidity:** The overall mean relative humidity was 83.5 % and the lowest value was 38 % on the 20th. The mean water vapour content per kg of air was 7.3 g at 0900 GMT and 6.7 g at 1500 GMT. **Commentary: From the 1st to the 11th:** Temperatures were close to normal until the 7th, then above, with anomalies for the daily max ranging between -1.5° on the 1st to +6.6° on the 8th. There were similar anomalies for the daily min, between -2.7° on the 7th to +6.9° on the 9th. The first two days were very wet, with a total of 30 mm, and a further 7.9 mm was added by the 5th, after which it became dry. Sunshine was meagre until the 5th, but apart from the 9th the rest of the period was sunny. Winds were light or moderate, S'yly until the 6th, becoming E'yly on the 7th and backing NE'yly by the 11th. **From the 12th to the 26th:** Temperatures were mostly below normal, with anomalies for the daily max between +0.1° on the 22nd and -5.5° on the 20th. There were several cold nights, with anomalies for the min down to -10.0° on the 21st, -8.9° on the 25th and -8.2° on the 17th. There were 8 dry days in this 15 day period, but only 3 days had significant rainfall, 5.0 mm on the 19th, 4.3 mm on the 22nd and 7.3 mm on the 26th. Sunshine was variable, mainly dull until the 16th, then mostly sunny except for the 18th, 22nd and 26th. Winds were light or moderate, mainly N'yly until the 16th, then varying between NW and SW until the 26th. **From the 27th to the 31st:** Temperatures were mainly above normal, with anomalies up to +6.1° for the min on the 29th, and +3.5° for the max on the 27th. There were 3 dry days and 2 wet. Sunshine was poor except on the 27th and 30th. Mainly moderate winds were SW'yly on the 27th backing S'yly by the 30th, then NE'yly on the 31st.

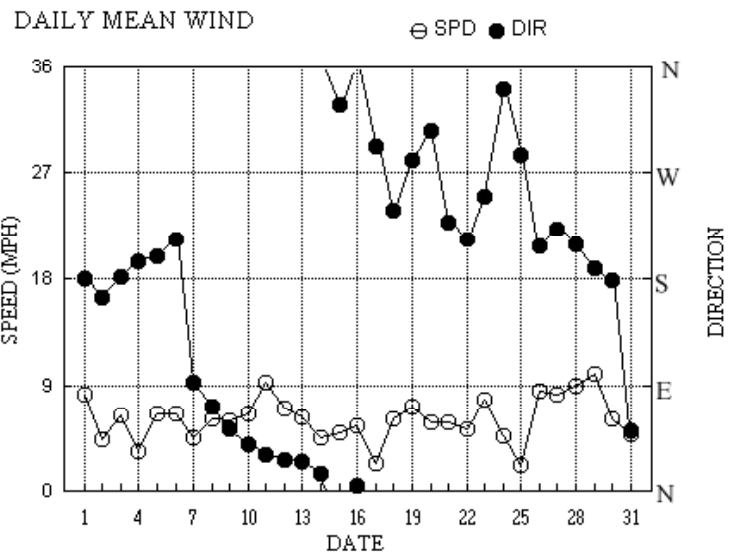
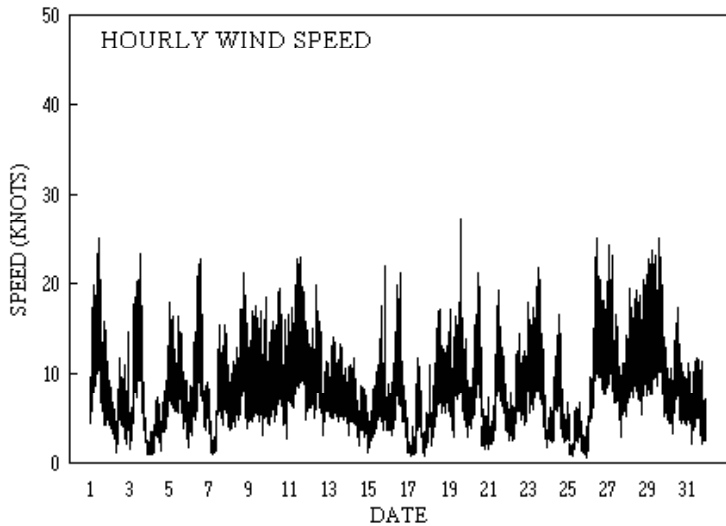
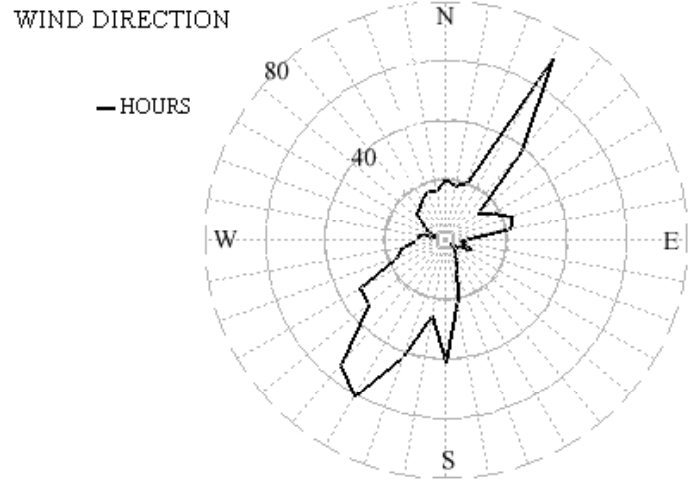
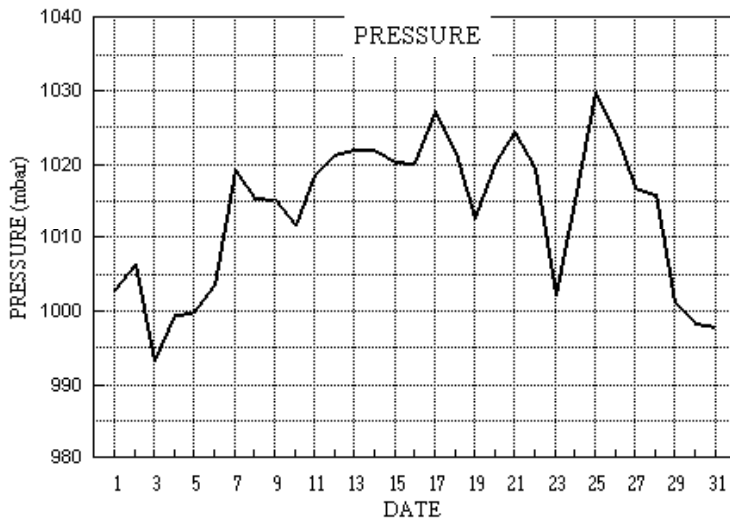
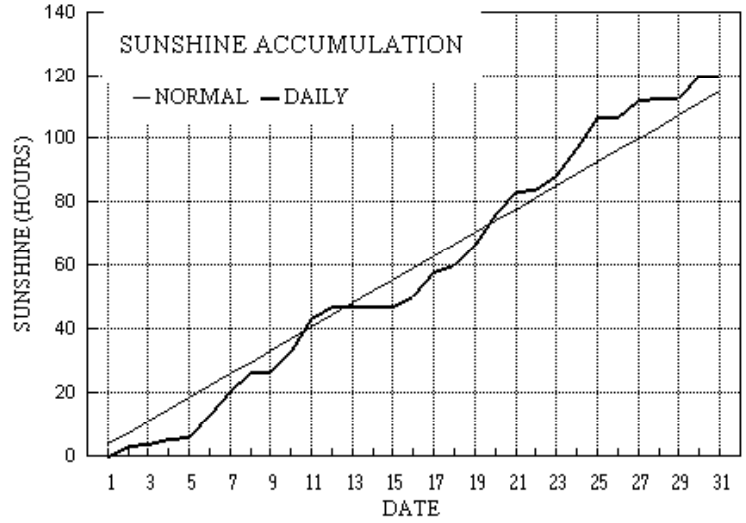
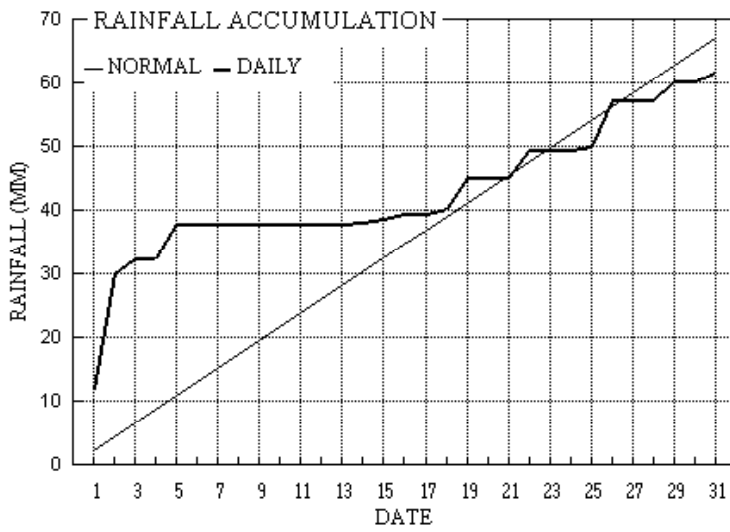
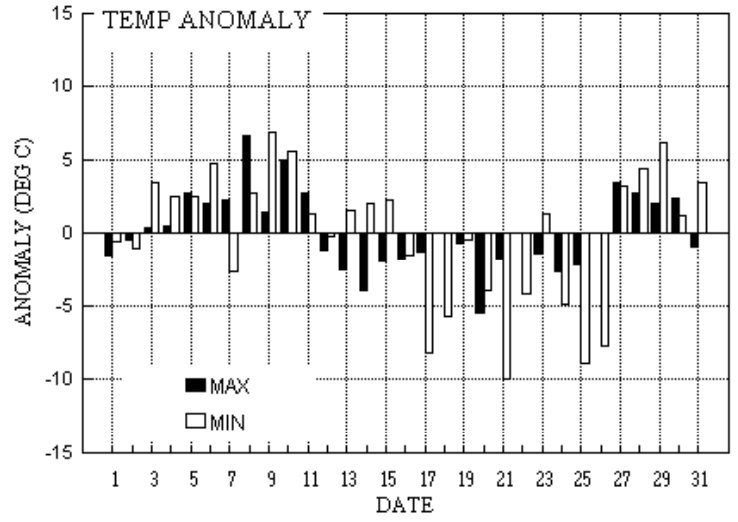
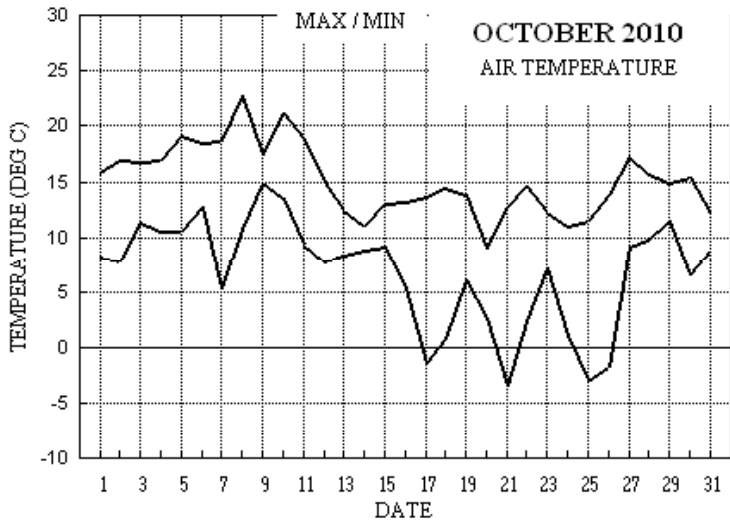
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

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°	+2.4°	176 %	89 %	-1.6°	-1.3°	32 %	119 %	+0.2°	-1.5°	69 %	105 %

B J Burton. FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham Climatological Graphs for October 2010



Month: October 2010

Date	Max	Min	Rain	Grass	30cm	100cm	Sun	Frost	pp09	Af	Sf	Th	Ic	Vec mean			Max gust			High hr			Rain	
	C	C	mm	Min	C	C	hrs	hrs	mbar	Gf	Sl	Ha	Fg	ddd	ff	sp	ddd	gg	HHhh	ddd	ff	HH	hrs	
1	15.8	8.2	11.9	7.4	14.8	15.4	0.0	0.0	1002.9	0	0	0	0	180	6.4	7.2	175	25	1209	175	11	12	8.8	
2	16.9	7.8	18.1	3.0	14.6	15.4	3.5	0.0	1006.3	0	0	0	0	164	2.8	3.8	108	15	2348	107	7	23	6.5	
3	16.8	11.4	2.3	11.0	14.7	15.4	0.2	0.0	993.2	0	0	0	0	182	4.8	5.6	200	24	1319	204	11	13	4.1	
4	16.9	10.5	tr	8.1	14.8	15.3	2.0	0.0	999.4	0	0	0	0	195	0.5	2.9	202	13	2328	203	7	23	0.0	
5	19.1	10.5	5.6	5.9	14.8	15.3	0.3	0.0	999.7	0	0	0	0	199	5.5	5.7	202	18	0049	195	8	01	6.6	
6	18.5	12.7	0.0	12.5	15.2	15.3	7.0	0.0	1003.5	0	0	0	0	214	5.1	5.7	227	23	1333	239	9	12	0.0	
7	18.7	5.3	tr	2.0	14.8	15.3	7.9	0.0	1019.2	0	0	0	0	92	3.4	4.0	87	16	1357	73	7	18	0.0	
8	22.7	10.7	0.0	13.2	14.9	15.3	5.8	0.0	1015.5	0	0	0	0	72	5.4	5.4	73	21	1859	74	8	18	0.0	
9	17.5	14.9	0.0	13.5	15.5	15.3	0.1	0.0	1015.1	0	0	0	0	52	5.1	5.2	69	19	2039	60	6	15	0.0	
10	21.1	13.6	0.0	13.4	15.6	15.4	6.1	0.0	1011.7	0	0	0	0	40	5.7	5.8	60	20	1300	51	8	13	0.0	
11	18.9	9.3	0.0	5.2	15.3	15.4	10.3	0.0	1018.5	0	0	0	0	31	8.0	8.0	25	23	1501	24	11	18	0.0	
12	15.0	7.8	0.0	4.8	14.7	15.4	4.0	0.0	1021.4	0	0	0	0	26	6.0	6.0	45	20	0944	27	8	05	0.0	
13	12.4	8.4	0.0	3.9	14.3	15.4	0.1	0.0	1021.9	0	0	0	0	25	5.4	5.4	25	14	0515	29	7	08	0.0	
14	11.0	8.8	0.1	8.7	14.0	15.2	0.0	0.0	1022.1	0	0	0	0	15	3.9	3.9	21	12	0731	21	6	03	0.2	
15	13.0	9.1	0.6	8.9	13.7	15.1	0.0	0.0	1020.4	0	0	0	0	328	3.9	4.3	30	22	2046	340	8	20	1.8	
16	13.2	5.3	0.9	0.4	13.5	15.0	3.3	0.0	1020.2	0	0	0	0	5	4.6	4.8	28	21	1450	15	8	11	0.3	
17	13.7	-1.4	tr	-4.7	12.6	14.8	7.5	4.7	1027.2	1	1	0	0	292	0.7	2.1	348	12	1110	338	4	15	0.0	
18	14.5	0.8	0.6	-2.5	11.8	14.6	1.9	0.0	1021.6	0	1	0	0	239	5.0	5.3	269	17	1538	261	8	12	0.3	
19	13.8	6.1	5.0	1.0	12.2	14.4	6.6	0.0	1012.7	0	0	0	1	281	5.5	6.3	318	28	1608	255	9	14	1.1	
20	9.0	2.6	tr	-1.9	11.8	14.2	9.8	3.3	1020.1	0	1	0	0	305	4.2	5.0	303	21	1328	321	9	12	0.0	
21	12.8	-3.5	0.0	-7.5	10.5	14.0	7.0	7.7	1024.3	1	1	0	0	228	4.9	5.0	264	20	1357	241	8	13	0.0	
22	14.6	2.3	4.3	-1.8	10.2	13.7	0.6	0.0	1019.5	0	1	0	0	213	4.3	4.5	233	15	1503	211	6	18	3.3	
23	12.3	7.2	tr	5.0	10.7	13.4	4.1	0.0	1002.0	0	0	0	0	250	5.6	6.7	247	22	1201	255	9	12	0.2	
24	11.0	1.0	0.0	-4.1	10.7	13.2	9.0	0.0	1015.0	0	1	0	0	341	3.7	4.0	358	17	1300	4	7	14	0.0	
25	11.5	-3.0	0.6	-6.8	9.8	13.1	9.6	8.0	1029.7	1	1	0	0	285	0.8	1.9	237	7	1527	249	3	15	0.9	
26	13.8	-1.8	7.3	-6.1	9.0	12.9	0.0	0.6	1024.1	1	1	0	0	207	7.0	7.4	222	25	1121	208	12	11	7.0	
27	17.2	9.1	tr	11.2	10.0	12.6	5.2	0.0	1016.8	0	0	0	0	223	6.9	7.2	211	25	0351	219	11	05	0.0	
28	15.7	9.8	0.0	4.8	10.6	12.5	0.6	0.0	1016.0	0	0	0	0	209	7.6	7.7	189	21	2026	198	10	22	0.0	
29	15.0	11.5	2.9	10.0	11.1	12.5	0.2	0.0	1001.1	0	0	0	0	189	8.2	8.6	189	25	1521	189	11	16	2.4	
30	15.4	6.6	0.1	1.5	11.4	12.5	6.9	0.0	998.4	0	0	0	0	179	4.2	5.4	200	18	1355	197	8	14	0.2	
31	12.1	8.9	1.1	6.0	11.3	12.6	0.0	0.0	997.8	0	0	0	0	51	3.4	4.2	36	12	1256	23	6	14	4.5	
Total			61.4				119.6	24.3															48.2	
Mean	15.2	6.8		4.1	12.9	14.4	3.86	0.8	1013.5					223	0.8	5.3								
Anom	+0.4	+0.1	92%		+0.1	-0.3	104%		-1.7															
Daily mean		11.0							Pressure, abs highest =					1030.2										
Anom		+0.2							Pressure, abs lowest =					992.1										

Number of days with:

Air frost = 4 Ground frost = 8 Nil sun = 5
 Snow falling = 0 Snow lying = 0 Thunder = 1
 Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 0

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT

Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).

Grass min = Lowest overnight temperature at grass tip level.

Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.

pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.

Af = Air frost. Gf = Ground frost. Sf = Snow falling. Sl = Snow lying at 09 GMT.

Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.

Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.

Sp = 24 hour mean wind speed in knots.

Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.

High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.

30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.

Anom = Departure from 1971-2000 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for October 2010

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ci	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	45	8	18	13	21	14.0	12.8	92	9.2	1002.9	7	015	58	6	5	7	7	3	2	/	82708	87712	88525					1	
2	40	6	17	01	05	11.4	10.9	96	8.2	1006.3	1	011	40	2	2	1	6	3	0	8	81708	86080					2	1Sc35 2Cs72 COTRA jfNW vv20k exNW Parhelia	
3	65	8	16	06	17	16.1	14.5	90	10.4	993.2	7	006	21	6	2	4	5	4	7	/	81712	83650	86358				3	1Sc40 8Ac62	
4	59	8	02	03	07	13.1	12.7	97	9.2	999.4	2	004	20	6	5	8	6	2	/	/	82703	87705	88708				4		
5	68	8	20	06	10	16.2	13.5	84	9.8	999.7	2	012	02	2	2	2	5	4	7	7	81712	86465	88270				5	2Sc45 2Ac62	
6	82	7	23	05	09	13.0	12.1	94	8.8	1003.5	2	036	21	6	2	1	7	3	7	1	81708	85457	87362				6	2Ac60 /Ci75 vv60k exE Cld edgeW	
7	60	5	03	02	04	10.7	10.2	96	7.7	1019.2	1	006	10	1	1	1	0	9	3	8	81368	85075					7	2Cs72 COTRA Parhelia U/a cont	
8	30	8	08	05	11	16.5	15.7	94	11.0	1015.5	3	011	10	5	4	8	6	3	/	/	86704	88706					8		
9	28	8	05	06	15	15.2	13.7	91	9.7	1015.1	5	002	05	2	2	8	6	3	/	/	86708	88710					9		
10	35	8	05	05	13	14.7	13.0	89	9.3	1011.7	3	007	05	2	2	8	6	3	/	/	83707	88710					10		
11	60	1	04	09	19	13.5	9.6	77	7.4	1018.5	0	008	05	0	0	1	1	4	0	0	81815							11	Cu fra
12	61	7	03	05	11	11.3	8.3	81	6.7	1021.4	1	006	02	1	1	7	5	5	/	/	87620							12	
13	80	8	03	05	14	10.0	6.1	77	5.8	1021.9	2	005	02	2	2	8	5	4	/	/	88618							13	
14	70	8	03	03	10	9.3	5.4	77	5.5	1022.1	1	010	02	2	2	8	5	4	/	/	82617	88620					14		
15	59	8	01	04	08	10.2	8.7	90	6.9	1020.4	0	001	05	6	5	8	5	3	/	/	86708	87625	88640				15		
16	62	6	36	04	11	9.1	7.0	86	6.2	1020.2	2	014	01	2	2	6	6	4	0	0	86710							16	
17	86	3	18	01	03	6.1	4.8	91	5.3	1027.2	1	005	02	1	1	2	5	7	0	1	82650							17	2Ci81 COTRA
18	67	7	25	04	10	9.3	6.6	83	6.0	1021.6	7	003	01	6	2	2	5	6	0	1	81630	87075					18	2Sc40 1Cc70 COTRA Halo 22° part Parhelia	
19	80	2	27	06	14	10.1	6.0	75	5.9	1012.7	0	003	02	0	0	1	5	7	0	1	81650							19	2Ci75 COTRA
20	84	0	32	07	13	5.2	1.2	75	4.1	1020.1	2	025	02	0	0	0	0	9	0	0								20	
21	82	3	21	05	10	5.4	2.3	81	4.4	1024.3	7	003	03	0	0	1	5	7	0	1	81650	83075					21	COTRA Slt hoar in shade	
22	70	7	23	03	06	7.3	6.5	94	6.0	1019.5	7	002	03	2	2	7	8	6	/	/	81845	87650					22	Cu hum	
23	86	6	25	07	16	10.9	8.6	86	7.0	1002.0	3	003	03	6	2	1	1	4	3	2	81812	86070					23	1Ac65 COTRA Cu fra Parhelion	
24	80	0	34	06	10	5.3	3.5	88	4.9	1015.0	2	021	02	0	0	0	0	9	0	0								24	
25	82	2	32	01	05	3.9	1.7	86	4.2	1029.7	1	016	02	0	0	0	0	9	0	1	82080							25	COTRA Hoar mod in shade
26	72	8	20	08	15	9.2	6.7	85	6.0	1024.1	7	016	60	6	2	7	5	7	2	/	81650	87656	88460				26		
27	65	7	21	07	13	13.5	12.5	93	8.9	1016.8	0	004	21	6	5	6	8	3	3	1	84708	83635	87075				27	2Cu12 /Ac58 COTRA Cu med	
28	65	7	22	09	17	13.8	11.0	83	8.1	1016.0	2	011	03	2	2	2	6	4	3	8	82712	83365	87272				28	1Sc25 COTRA	
29	75	8	16	11	21	13.3	10.3	82	7.9	1001.1	7	027	02	2	2	7	5	4	/	/	87612							29	/Ci75 COTRA
30	80	7	19	04	08	10.5	8.5	88	7.0	998.4	2	009	02	2	2	1	2	5	6	3	81825	87075					30	1Ac65 1Ci72 COTRA Cb top S Halo 22° part	
31	61	8	08	04	09	10.8	9.9	94	7.7	997.8	2	018	60	6	2	3	8	3	7	/	81708	84358	88465				31	1Sc20 2Cu40 Cu med	

Mean vis = 21.5 km

Mean cloud = 6.0 75%

Mean wind speed = 5.3 kn

Mean gust = 11 kn

Mean TT = 10.9 °C

Mean TdTd = 8.8 °C

Mean RH = 86.9 %

Mean r = 7.3 g/kg

Mean PPP = 1013.5 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 October 2010

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NCh	shs	NCh	shs	Date	Remarks
1	40	8	17	07	13	14.6	13.8	94	9.9	998.5	7	024	63	6	6	7	7	3	2	/	82706	86709	88515			1		
2	82	7	15	05	10	15.4	12.7	84	9.2	1003.2	7	018	01	6	2	5	8	4	7	1	82812	84635	86362			2	2Ac57 /Ci75 Cu med	
3	70	7	23	08	19	16.1	11.8	76	8.7	994.9	3	025	15	6	2	5	8	5	7	1	82820	84640	86075			3	3Ac58 Cu med jpS vv50k exS	
4	80	7	15	03	05	16.0	13.5	85	9.7	998.3	5	004	01	2	2	7	8	4	4	/	82815	87625				4	/Ac60 Clearance to W	
5	72	7	22	07	15	17.3	10.1	63	7.8	1000.8	3	010	02	2	2	1	1	5	7	/	81828	83361	86365			5	6As68 Cu hum Cld edgeW	
6	84	3	25	08	19	16.8	6.5	51	6.0	1008.9	2	024	01	1	1	1	1	6	0	1	81840	83075				6	COTRA Cu hum Parhelion Cz arc part	
7	84	7	09	06	13	17.3	9.2	59	7.2	1016.0	6	016	03	2	2	6	8	6	0	1	81835	86645				7	/Ci75 Cu hum	
8	57	1	07	06	17	20.6	15.5	73	10.9	1014.3	6	009	05	1	1	1	1	5	3	0	81822					8	1Ac64 Cu hum	
9	58	6	05	05	18	17.0	13.6	81	9.7	1012.7	6	019	05	2	2	8	5	4	/	/	86615					9		
10	81	0	05	06	13	19.7	7.9	46	6.6	1011.8	2	002	02	0	0	0	0	9	0	0						10		
11	70	1	03	11	21	17.6	8.2	54	6.7	1017.3	6	008	02	0	0	0	0	9	0	1	81078					11		
12	65	2	03	05	15	13.8	7.2	64	6.2	1020.2	7	011	01	1	1	2	5	5	0	0	82625					12		
13	81	7	02	06	13	11.6	5.5	66	5.6	1020.7	6	009	02	2	2	7	5	5	/	/	87625					13		
14	63	8	01	04	09	10.5	7.0	79	6.1	1021.5	6	004	02	2	2	8	8	4	/	/	82815	88625				14	Cu hum	
15	66	8	31	07	14	12.2	5.5	64	5.5	1017.7	6	016	02	2	2	8	5	6	/	/	82630	88640				15		
16	62	6	03	08	21	10.5	7.2	80	6.3	1021.2	3	006	80	8	2	6	8	4	/	/	81815	84645	85656			16	2Cu20 Cu med vv30k ex p	
17	86	3	32	03	10	11.9	1.2	48	4.1	1025.6	6	008	02	1	1	3	8	6	0	4	81842	83645				17	1Ci80 Cu hum	
18	81	7	26	06	16	13.6	6.5	62	6.0	1018.3	7	020	02	2	2	7	8	6	/	1	83830	87645				18	/Ci75 COTRA Cu med	
19	80	5	26	09	18	13.3	4.5	55	5.2	1008.8	7	024	15	8	2	5	8	6	0	1	83830					19	2Sc50 1Ci75 Cu med jpNW&NE vv50k ex p	
20	84	1	33	06	20	8.5	-3.9	41	2.9	1021.8	3	007	02	0	0	1	1	6	0	1	81848					20	1Ci80 Cu hum	
21	80	7	24	08	15	11.1	3.9	61	5.0	1022.0	7	015	15	1	1	7	8	6	/	/	81830	83635	87650			21	Cu hum jpSW vv60k ex p	
22	84	7	23	05	13	13.1	4.0	54	4.9	1016.1	7	020	02	2	2	6	8	6	/	1	81835	86656				22	1Sc45 /Ci75 Cu med	
23	88	5	27	06	15	10.9	5.1	67	5.5	1002.0	3	002	01	8	1	1	9	5	6	3	81920	81825	84070			23	1Ac60 Cb NWtoN	
24	82	2	01	07	16	9.8	1.6	57	4.2	1017.2	2	010	01	0	0	2	2	6	0	2	82830					24	1Ci75 Cu med	
25	83	1	25	04	07	9.7	-0.2	50	3.7	1029.3	8	006	02	0	0	0	0	9	0	1	81080					25	COTRA	
26	56	8	21	09	21	11.0	10.0	93	7.6	1020.7	6	020	63	6	6	7	7	3	2	/	82707	85709	87712			26	8Ns20	
27	82	6	23	06	11	15.6	8.8	64	7.1	1016.0	7	008	02	2	2	1	8	5	0	1	81828	86075				27	1Sc35 COTRA Cu med Parhelion	
28	75	7	21	08	18	14.9	10.3	74	7.7	1014.7	7	012	02	2	2	1	8	5	7	2	81820	86365				28	1Sc45 2Ac63 /Ci75 Cu med	
29	70	8	19	10	21	14.5	9.6	72	7.6	994.3	7	034	02	2	2	2	8	5	7	1	81820	83363	87465			29	2Sc25 /Ci75 COTRA Cu hum	
30	80	6	20	06	17	12.9	7.8	71	6.7	997.4	3	002	15	2	2	3	9	5	6	3	81920	83825	85075			30	1Ac65 jpN Absent, vv&cld est	
31	58	8	02	07	12	11.6	10.7	94	8.1	1000.5	2	014	61	6	6	7	5	3	2	/	84707	85618	88550			31		

Mean vis = 29.5 km

Mean cloud = 5.4 67%

Mean wind speed = 6.5 kn

Mean gust = 15 kn

Mean TT = 13.9 °C

Mean TdTd = 7.6 °C

Mean RH = 67.2 %

Mean r = 6.7 g/kg

Mean PPP = 1012.3 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)-

covers past 3 hours.

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

Wokingham	Hour	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct
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
2010	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	0.02	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.20	0.22	0.00	0.00	0.00	0.00
	7	0.00	0.58	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.62	0.00	0.00	0.00	0.00
	8	0.00	0.47	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.31
	9	0.00	1.00	0.00	0.00	0.00	0.66	1.00	0.00	0.00	0.02	1.00	0.00	0.00	0.00	0.00	0.64
	10	0.00	1.00	0.00	0.00	0.04	0.60	1.00	0.06	0.00	0.06	1.00	0.00	0.00	0.00	0.00	0.35
	11	0.00	0.45	0.00	0.00	0.03	0.82	1.00	0.98	0.00	0.81	1.00	0.00	0.01	0.00	0.00	0.06
	12	0.00	0.00	0.00	0.01	0.14	0.97	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.03
	13	0.00	0.02	0.02	0.00	0.00	0.88	1.00	1.00	0.00	1.00	1.00	0.24	0.00	0.00	0.00	0.21
	14	0.00	0.00	0.08	0.00	0.02	0.86	0.66	0.93	0.02	1.00	1.00	0.90	0.02	0.00	0.00	0.72
	15	0.00	0.00	0.06	0.58	0.00	0.90	0.00	1.00	0.05	1.00	1.00	1.00	0.00	0.00	0.00	0.75
	16	0.00	0.00	0.00	1.00	0.05	1.00	0.00	0.87	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.25
	17	0.00	0.00	0.00	0.37	0.03	0.32	0.00	0.00	0.00	0.23	0.12	0.03	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	3.54	0.16	1.96	0.30	7.04	7.89	5.84	0.07	6.13	10.32	4.01	0.03	0.00	0.00	3.33

Hour	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	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	0.06	0.05	0.07	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
7	0.00	0.01	0.78	1.00	1.00	0.00	0.12	1.00	0.94	0.00	0.00	0.16	0.00	0.48	0.00	0.28
8	1.00	0.61	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.01	0.41	0.00	1.00	0.00	0.38
9	1.00	0.41	1.00	1.00	0.94	0.00	0.33	1.00	1.00	0.00	0.61	0.00	0.00	1.00	0.00	0.41
10	1.00	0.03	0.90	1.00	0.90	0.00	0.05	1.00	1.00	0.00	0.72	0.00	0.00	1.00	0.00	0.38
11	0.83	0.81	0.41	1.00	1.00	0.00	0.11	1.00	1.00	0.00	1.00	0.00	0.00	0.78	0.00	0.42
12	0.69	0.01	0.18	1.00	0.96	0.03	0.12	0.79	1.00	0.00	0.38	0.00	0.00	0.44	0.00	0.35
13	0.72	0.00	0.61	1.00	0.69	0.35	0.07	0.85	1.00	0.00	0.67	0.00	0.00	0.63	0.00	0.39
14	0.59	0.01	0.96	1.00	0.31	0.19	0.71	0.82	1.00	0.00	0.79	0.02	0.05	0.68	0.00	0.43
15	0.96	0.00	0.58	1.00	0.00	0.06	0.87	0.87	1.00	0.00	0.62	0.00	0.13	0.77	0.00	0.43
16	0.68	0.00	0.07	0.79	0.08	0.00	0.69	0.67	0.64	0.00	0.41	0.00	0.00	0.08	0.00	0.33
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	0.04
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	7.46	1.88	6.55	9.85	6.96	0.63	4.08	9.04	9.58	0.00	5.22	0.58	0.16	6.87	0.00	119.41

October 2010	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	14.01	15.8	1855	12.3	2357	92.8	96.7	1834	83.7	509	12.86	9.31	10.9	1855	8.2	0	1002.31	1009.7	0	997.4	1642	11.1	
2	12.36	16.2	1115	7.7	615	91.5	98.3	741	73.1	1130	10.97	8.23	9.5	1442	6.4	615	1003.23	1006.4	857	996.7	2346	14.7	
3	14.12	16.8	924	10.6	2356	90.8	98.1	427	73.2	1514	12.61	9.24	11.0	546	7.8	2356	995.66	998.7	2230	992.1	1053	2.4	
4	13.02	16.8	1530	10.5	2103	93.5	98.1	738	81.0	1535	11.98	8.82	10.3	1244	7.6	2103	998.89	999.9	2103	998.0	1322	0.6	
5	15.63	19.0	1233	11.7	0	82.6	96.1	2326	59.4	1443	12.57	9.16	10.3	540	7.4	1516	1000.28	1002.8	2057	998.0	534	1.4	
6	13.78	18.1	1330	9.1	2350	80.3	96.7	453	45.9	1347	10.07	7.81	10.0	116	5.7	1346	1006.84	1016.3	2352	998.6	402	3.3	
7	12.60	18.4	1434	5.5	520	83.3	98.2	801	52.9	1403	9.57	7.45	10.0	2356	5.4	520	1017.08	1019.3	838	1015.1	0	0.0	
8	16.79	21.8	1327	14.8	158	88.0	97.0	625	70.9	1412	14.73	10.37	12.2	1206	9.4	1910	1015.10	1016.7	2307	1013.9	1557	0.0	
9	15.58	17.4	1435	14.0	2346	87.1	92.0	128	79.7	1531	13.44	9.55	10.3	1300	8.4	2107	1014.20	1016.5	51	1012.3	2355	0.0	
10	15.01	20.4	1233	9.9	2159	76.6	91.2	355	41.6	1445	10.57	8.00	10.4	1135	5.7	1540	1012.56	1016.7	2352	1010.6	427	0.0	
11	12.98	18.4	1427	9.0	2359	77.0	92.3	705	49.6	1221	8.76	6.97	7.8	957	6.1	1221	1018.27	1020.7	2224	1016.4	146	0.0	
12	10.81	14.7	1407	7.9	622	80.4	91.5	14	63.5	1410	7.51	6.38	7.0	926	5.7	622	1020.82	1021.5	1022	1019.6	1604	0.0	
13	10.25	12.2	1419	9.0	522	74.4	82.8	616	64.0	1322	5.86	5.70	6.3	5	5.3	2256	1021.46	1022.1	829	1020.5	1637	0.0	
14	9.67	10.9	1409	8.8	648	79.2	88.6	2352	72.8	230	6.23	5.86	6.6	2352	5.2	408	1021.65	1022.5	1050	1020.9	357	0.0	
15	10.43	13.0	1354	8.3	2344	83.8	93.8	719	62.3	1356	7.74	6.50	7.1	945	5.5	1447	1018.76	1021.4	3	1016.0	2018	0.7	
16	7.81	13.2	1327	1.6	2358	85.4	95.1	528	67.5	1238	5.46	5.58	7.0	1438	3.9	2358	1021.10	1026.1	2358	1016.8	9	0.8	
17	4.78	12.8	1349	-1.2	605	81.0	98.0	640	43.1	1340	1.26	4.13	5.9	1037	3.3	605	1026.16	1027.5	943	1024.6	2357	0.2	
18	9.28	14.3	1153	1.1	45	77.6	95.7	128	58.1	1417	5.41	5.59	7.2	1044	3.9	36	1019.60	1024.7	0	1013.2	2357	0.0	
19	9.28	13.7	1455	4.6	2359	78.8	92.3	734	53.7	1606	5.59	5.66	6.9	257	4.7	2359	1011.66	1014.3	2359	1008.4	1534	4.6	
20	4.14	9.1	1322	-1.7	2344	74.3	94.8	2347	38.1	1521	-0.54	3.65	4.8	1	2.5	1521	1020.65	1025.2	2359	1014.3	0	0.1	
21	5.00	12.6	1414	-3.1	517	80.9	96.7	709	56.3	1213	1.69	4.34	5.4	2028	2.8	518	1023.26	1025.2	2	1021.2	2355	0.2	
22	8.25	14.2	1358	2.3	301	82.8	96.8	439	52.8	1459	5.30	5.52	7.0	1158	4.2	301	1017.26	1021.3	34	1009.6	2358	0.0	
23	9.63	12.1	1139	3.7	2359	82.3	94.2	2358	63.5	1522	6.69	6.18	7.6	610	4.7	2359	1004.15	1009.6	0	1000.9	626	3.7	
24	4.99	10.9	1448	-0.0	2358	83.6	97.4	612	55.7	1457	2.20	4.43	5.3	1201	3.6	2358	1016.74	1025.2	2358	1009.3	2	0.1	
25	2.91	10.3	1425	-2.2	645	82.3	97.5	804	44.9	1359	-0.23	3.69	4.9	1039	3.1	645	1028.85	1030.2	2122	1025.2	0	0.1	
26	8.72	13.5	2021	-0.6	0	90.6	95.9	0	77.2	1007	7.25	6.51	9.0	2021	3.4	0	1022.87	1029.3	0	1018.3	2349	6.6	
27	13.13	17.0	1203	9.7	2221	84.0	95.4	2224	57.8	1554	10.36	7.80	9.5	1023	5.9	1551	1016.54	1018.6	2	1015.6	1644	0.4	
28	12.94	15.6	1155	10.3	51	83.6	93.4	0	72.9	1435	10.21	7.71	8.4	1049	7.1	51	1014.58	1016.5	1050	1010.1	2357	0.1	
29	12.70	14.9	1321	10.6	2357	83.2	92.8	1956	69.7	1337	9.89	7.66	8.6	1754	7.1	233	999.37	1010.3	21	992.9	1648	2.7	
30	10.84	15.0	1221	6.5	631	84.2	95.3	715	60.2	1243	8.17	6.84	7.5	922	5.7	631	997.11	998.5	914	995.2	49	0.1	
31	10.51	11.9	1153	6.7	2357	93.6	96.3	2354	90.6	348	9.52	7.48	8.3	1432	5.9	2352	1000.43	1009.5	2357	995.2	347	1.2	
Total																							55.1
Mean	10.71	14.86		6.37		83.5	94.81		62.43		7.86	6.84	8.16		5.54		1013.14	1016.88		1009.57			
Max	16.79	21.78		14.77		93.6	98.30		90.60		14.73	10.37	12.22		9.43		1028.85	1030.21		1025.17			
Min	2.91	9.10		-3.13		74.3	82.80		38.06		-0.54	3.65	4.76		2.53		995.66	998.52		992.11			

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

Tmn = 00 to 24 GMT mean air temperature at 1.2 m, deg Altitude 45 m ASL.

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

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/www1.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.