

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

AUGUST 2010

Temperature (°C / °F)			Anomaly	Rank in the past 129 years			
Mean maximum	20.8	69.4	-1.4	43 rd lowest			
Mean minimum	11.9	53.4	-0.1	37 th highest			
Daily mean	16.3	61.3	-0.8	63 rd highest			
Highest maximum	24.9	76.8	on 16 th	Lowest maximum	17.0	62.6	on 13 th
Highest minimum	18.6	65.5	on 21 st	Lowest minimum	4.9	40.8	on 31 st
Mean grass minimum	8.9	48.0	-0.5	Lowest grass minimum	1.7	35.1	on 31 st
Mean earth @30 cm	18.0	64.4	-0.4	Earth @100 cm	17.3	63.1	
Frost duration (hrs)	0.0			Rain duration (hrs)	60.8		
Rainfall total (mm / in)	87.8	3.46	172 %	19 th highest			
Highest daily fall	24.6	0.97	on 25 th				
Number of: Dry days (<0.2mm)	13	Wet days (>0.9mm)	13	days ≥5mm	5		
Sunshine total (hrs)	124.9	Daily mean	4.03	64 %	Sunniest day	12.3	on 31 st
N° days with: Air frost	0	Ground frost	0	Snow falling	0	Snow lying	0
Thunder	3	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0
Air pressure MSL : Mean @09 GMT (mbar/in)	1014.8		-2.3	29.97			
Absolute highest	1027.5			30.34		on 31 st	
Absolute lowest	994.7			29.37		on 23 rd	

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

Notes: **Wet and Very Dull with Temperature Below Average.**

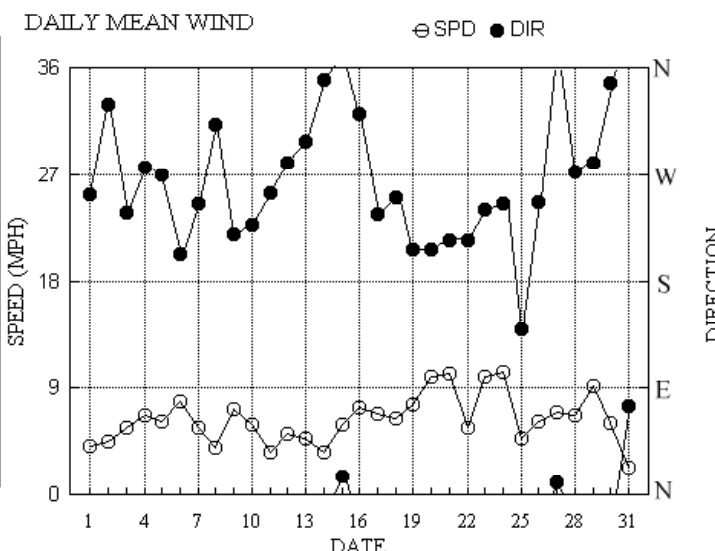
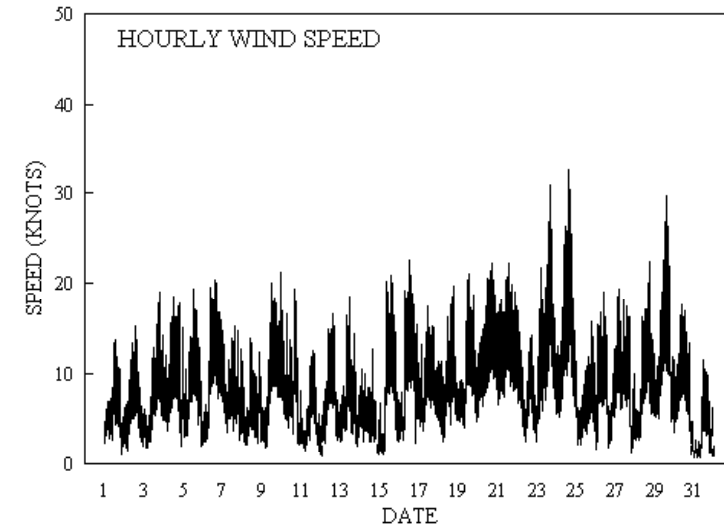
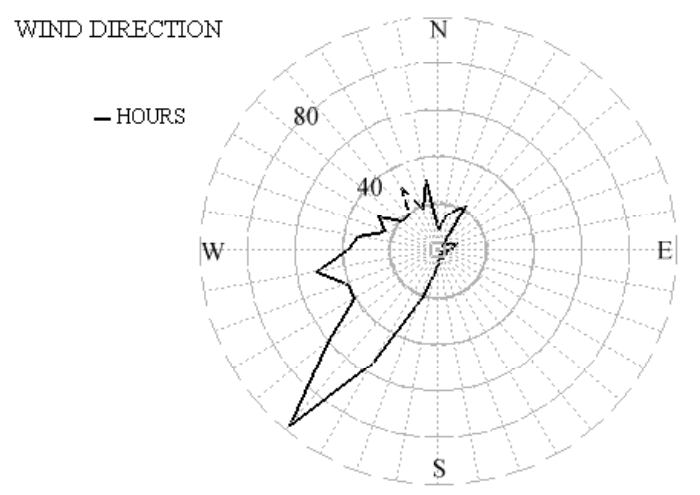
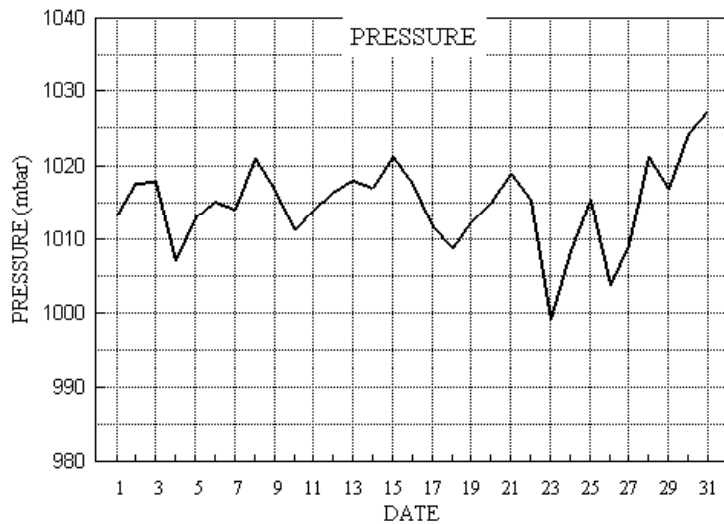
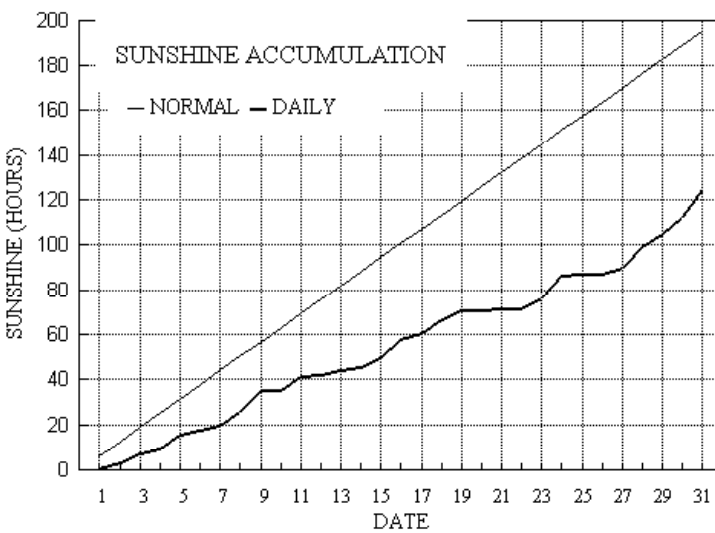
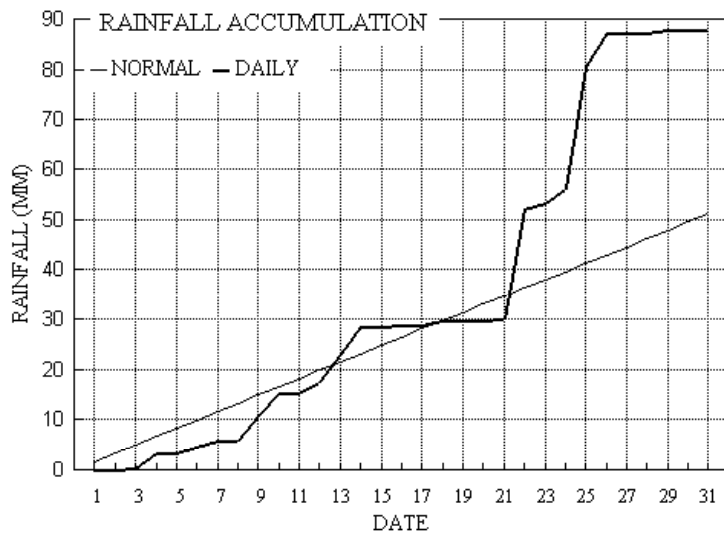
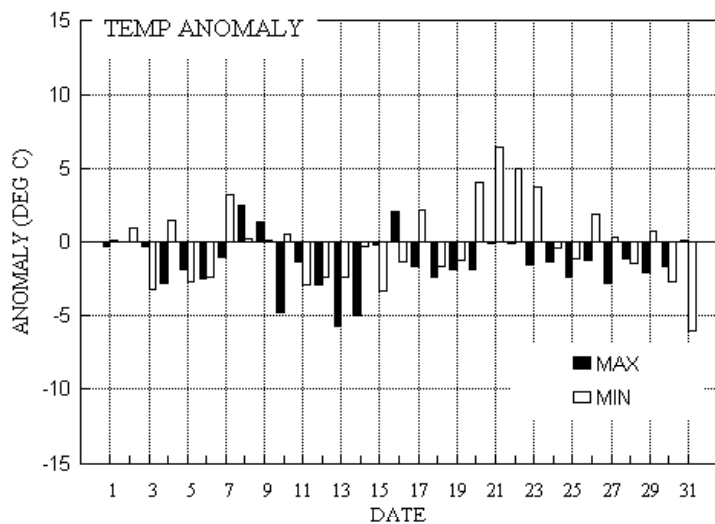
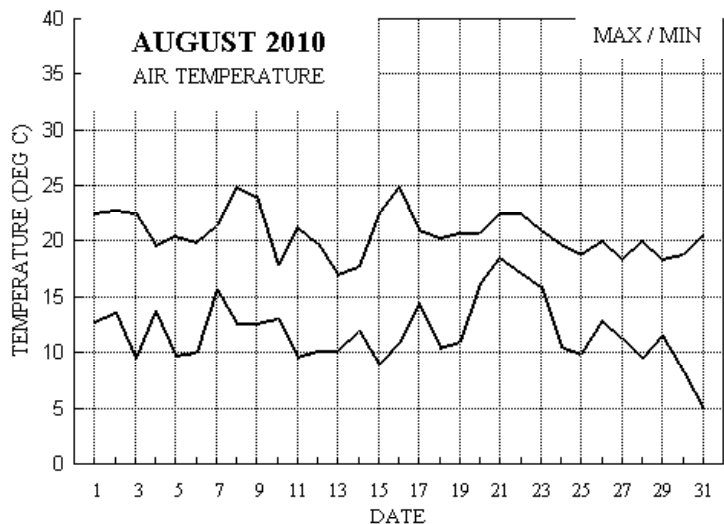
Temperature: The mean max this August is equal lowest with 2008 and 1988 since 1986. The mean min, however, is lowest only since 2007, so that the overall mean temperature is equal lowest with 2007 since 1993. There was absence of any hot weather, and the highest max is 3.0° below the median and is lowest since 1986, but the lowest max was not especially low, being close to the median. The highest min is 7th highest in 98 years, and is 2.4° above the median, while the lowest min is 1.4° below its median and is lowest since 1993, as is the lowest grass min. Earth temperatures down to 1 m depth are a little below average. **Rainfall:** This has been a wet August, with the highest rainfall total since 1999. However, the record rainfall of August 1916 when over 140 mm fell serves to keep this month's total in perspective. Also, since 1882 there have been 12 Augusts having over 100 mm of rain. The highest daily fall this month is also highest since 1999 and is 8.1 mm above the median. The number of dry days is 7 fewer than average, and there were no dry spells. The duration of measurable rain is highest for August since before 1993. The highest rainfall rate was 85 mm/hr on the 25th at 1909 GMT. Thunder frequency was about normal. **Sunshine:** Another very dull August, just 2 years after the dullest on record. The sunshine total ranks 5th lowest in 103 years, although there was a change of instrument in 1999 that would affect the rankings slightly. Daily sunshine was generally below normal for most of the month, and only increased to normal or above in the final 4 days. Overall there were 15 days with <3 hours, 9 with =>6 hours, 4 with =>9 hours and 1 with =>12 hours. **Wind:** The mean wind speed of 6.4 mph is 0.5 mph above average, and is 2nd highest after 2008 since 1994. The 24th was the windiest day, mean speed 10.4 mph, and the month's highest gust of 38 mph was on that day. The 31st was the least windy day, mean 2.4 mph, and there were 487 minutes (8.12 hours) with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,4 NE,0 E,1 SE,1 S,0 SW,13 W,8 NW,4. **Humidity:** The mean relative humidity was 75.9 % and the lowest value was 30 % on the 29th. The mean water vapour content per kg of air was 8.7 g at 0900 GMT and 8.5 g at 1500 GMT. **Commentary: From the 1st to the 21st:** Temperatures were generally near or below normal. Only 3 days had a positive anomaly for the max temp, and daily anomalies ranged from +2.5° on the 8th to -5.7° on the 13th. For minima, anomalies ranged from +3.2° on the 7th to -3.3° on the 15th, but increased to +6.4° on the 21st. Rainfall was fairly frequent, with 9 dry days, but the wettest period was the 48 hours 13th/14th when 11.1 mm fell. The period 15th to 21st was mainly dry with only 1.5 mm in total. Sunshine was below normal throughout, with only the 9th and 16th having more than 50 % of the maximum, and 12 days having <20 %. Winds were light or moderate throughout, between SW and NW up to the 13th, then temporarily N'ly, becoming SW'ly on the 17th. **From the 22nd to the 31st:** Daily maxima were below normal, with anomalies between -0.1° on the 22nd and -2.8° on the 27th. Anomalies for min were more variable, between +5.0° on the 22nd and -6.0° on the 31st. Copious amounts of rain fell between the 22nd and 26th, 57.1 mm for the 5 day total, including falls of over 20 mm on the 22nd and 25th, but it became mainly dry from the 27th onwards. There was some improvement in sunshine, firstly the 24th had 72 % of the max, then after the 27th, with the 31st having 90 % of the max. Winds were SW'ly, light on the 22nd but becoming fresh on the 23rd and 24th, backing light SE'ly on 25th, veering moderate N'ly by the 27th, backing W'ly on 28th and increasing fresh on the 29th before veering light E'ly by the 31st.

Table 1. Mean anomalies (Max, Min, 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			
-1.0°	-0.2°	91 %	56 %	-2.1°	-0.9°	85 %	57 %	-1.3°	+0.6°	321 %	78 %

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

Wokingham Climatological Graphs for August 2010



Month: August 2010

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	22.5	12.8	tr	9.2	19.2	17.7	0.6	0.0	1013.2	0 0 0 0	0 0 0 0	0 0 0 0	253	3.0 3.6	293 14 1200	260 6 11	0.0
2	22.8	13.6	0.0	10.4	19.0	17.7	2.8	0.0	1017.6	0 0 0 0	0 0 0 0	0 0 0 0	329	3.7 4.0	325 15 1209	339 6 09	0.0
3	22.5	9.5	0.2	5.8	18.8	17.7	4.4	0.0	1017.8	0 0 0 0	0 0 0 0	0 0 0 0	238	4.8 5.0	208 19 1817	222 9 17	0.1
4	19.6	13.8	3.1	11.9	18.8	17.7	2.0	0.0	1007.0	0 0 0 0	1 0 0 0	0 0 0 0	276	3.8 5.9	298 19 1256	331 9 17	1.2
5	20.5	9.7	0.0	5.8	18.3	17.6	5.6	0.0	1012.8	0 0 0 0	0 0 0 0	0 0 0 0	270	4.9 5.4	270 20 1230	283 9 11	0.0
6	19.9	10.0	1.3	6.1	18.0	17.6	2.0	0.0	1015.1	0 0 0 0	0 0 0 0	0 0 0 0	203	6.8 6.8	191 21 1447	201 10 14	1.5
7	21.4	15.6	1.3	15.0	18.0	17.5	2.2	0.0	1014.1	0 0 0 0	0 0 0 0	0 0 0 0	245	3.9 5.0	277 16 1538	212 7 00	0.7
8	24.9	12.6	0.0	9.4	18.2	17.4	6.0	0.0	1021.0	0 0 0 0	0 0 0 0	0 0 0 0	312	1.3 3.5	329 14 0912	210 6 20	0.0
9	24.0	12.6	4.8	8.6	18.7	17.4	9.6	0.0	1016.6	0 0 0 0	0 0 0 0	0 0 0 0	220	6.2 6.3	211 21 2354	227 9 16	2.5
10	17.9	13.0	4.6	13.1	19.1	17.4	0.2	0.0	1011.2	0 0 0 0	0 0 0 0	0 0 0 0	227	4.7 5.2	212 20 1529	212 8 16	5.0
11	21.3	9.6	0.0	5.4	18.4	17.5	5.9	0.0	1013.9	0 0 0 0	0 0 0 0	0 0 0 0	255	2.9 3.2	261 13 1354	256 6 14	0.0
12	19.8	10.1	2.1	5.9	18.1	17.5	1.0	0.0	1016.5	0 0 0 0	0 0 0 0	0 0 0 0	280	3.9 4.4	321 17 1447	289 8 15	1.4
13	17.0	10.1	5.4	5.6	17.5	17.4	2.3	0.0	1018.0	0 0 0 0	1 0 0 0	0 0 0 0	298	3.8 4.1	288 19 1025	299 7 10	4.1
14	17.8	11.9	5.7	8.6	17.2	17.4	1.0	0.0	1017.0	0 0 0 0	1 0 0 0	0 0 0 0	350	2.7 3.2	77 13 1528	326 5 05	2.9
15	22.6	8.9	0.0	5.6	17.2	17.2	4.3	0.0	1021.2	0 0 0 0	0 0 0 0	0 0 0 0	16	4.9 5.2	350 21 1250	23 10 14	0.0
16	24.9	10.9	0.4	6.1	17.5	17.1	8.0	0.0	1017.5	0 0 0 0	0 0 0 0	0 0 0 0	321	5.9 6.4	343 23 1131	339 10 11	0.8
17	21.1	14.4	0.0	13.2	17.9	17.1	2.7	0.0	1011.6	0 0 0 0	0 0 0 0	0 0 0 0	236	5.4 6.0	258 18 0911	212 8 18	0.0
18	20.4	10.5	0.7	5.7	17.9	17.1	6.0	0.0	1008.7	0 0 0 0	0 0 0 0	0 0 0 0	251	4.8 5.7	219 20 1702	228 10 16	0.7
19	20.8	11.0	tr	6.8	17.7	17.1	4.2	0.0	1012.3	0 0 0 0	0 0 0 0	0 0 0 0	206	6.5 6.7	232 21 1201	214 10 12	0.0
20	20.8	16.2	tr	14.2	17.8	17.1	0.1	0.0	1015.0	0 0 0 0	0 0 0 0	0 0 0 0	206	8.6 8.6	213 22 1627	207 11 16	0.0
21	22.6	18.6	0.4	17.2	18.2	17.1	0.5	0.0	1018.8	0 0 0 0	0 0 0 0	0 0 0 0	214	8.8 8.8	230 23 1332	213 11 10	0.3
22	22.6	17.2	21.9	17.0	18.5	17.1	0.3	0.0	1015.3	0 0 0 0	0 0 0 0	0 0 0 0	214	4.3 4.9	225 17 0049	216 8 02	9.7
23	21.1	15.9	1.2	16.5	18.8	17.2	4.8	0.0	999.3	0 0 0 0	0 0 0 0	0 0 0 0	240	7.2 8.6	259 31 1613	258 14 16	0.5
24	19.8	10.6	2.8	6.2	18.4	17.2	10.1	0.0	1008.4	0 0 0 0	0 0 0 0	0 0 0 0	245	8.7 9.0	253 33 1437	256 16 14	0.5
25	18.8	9.9	24.6	5.4	17.9	17.3	0.4	0.0	1015.4	0 0 0 0	0 0 0 0	0 0 0 0	139	1.8 4.1	81 16 1710	68 6 18	13.8
26	20.0	12.9	6.6	12.5	17.5	17.3	0.1	0.0	1003.7	0 0 0 0	0 0 0 0	0 0 0 0	247	2.7 5.3	234 19 0935	226 9 09	14.3
27	18.4	11.3	0.1	11.6	17.8	17.2	3.3	0.0	1009.2	0 0 0 0	0 0 0 0	0 0 0 0	10	5.2 6.0	24 20 0413	23 9 03	0.1
28	20.1	9.5	0.0	4.0	17.5	17.1	9.0	0.0	1021.1	0 0 0 0	0 0 0 0	0 0 0 0	273	5.7 5.9	284 23 1656	272 10 16	0.0
29	18.4	11.6	0.6	8.0	17.4	17.1	6.0	0.0	1016.7	0 0 0 0	0 0 0 0	0 0 0 0	280	7.0 8.0	331 30 1401	272 13 13	0.7
30	18.8	8.2	0.0	2.8	16.9	17.0	7.2	0.0	1024.3	0 0 0 0	0 0 0 0	0 0 0 0	347	4.9 5.3	357 18 0913	339 9 07	0.0
31	20.6	4.9	0.0	1.7	16.5	16.9	12.3	0.0	1027.4	0 0 0 0	0 0 0 0	0 0 0 0	75	1.4 2.1	24 12 1052	63 4 10	0.0
Total			87.8				124.9	0.0						253 3.2 5.6			60.8
Mean	20.8	11.9		8.9	18.0	17.3	4.03	0.0	1014.8								
Anom	-1.4	-0.1	172%		-0.4	-0.3	64%										
Daily mean		16.3															
Anom		-0.8															

Number of days with:

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

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Anom = Departure from 1971-2000 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for August 2010

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	Nh	Ch	Nh	Ch	Date	Remarks
1	80	7	20	03	06	17.3	13.3	77	9.4	1013.2	2	004	02	2	2	7	8	4	/	/	81815	84640	87650	1	Cu med	
2	80	6	32	05	10	17.9	11.5	66	8.2	1017.6	2	007	03	2	2	1	8	5	3	0	81822	85357		2	1Sc50 Cu hum	
3	80	7	25	03	07	16.5	10.3	66	7.9	1017.8	7	003	03	1	1	1	1	5	5	1	81825	87359		3	2Ac57 /Ci78 Cu hum	
4	82	7	24	08	16	17.8	11.9	68	8.7	1007.0	8	019	01	2	2	7	8	5	3	1	83820	85630		4	2Ac58 /Ci75 Cu med	
5	84	7	30	08	14	16.7	8.6	59	7.0	1012.8	2	006	03	1	1	7	8	5	/	/	81822	87650		5	1Sc45 Cu med	
6	80	7	20	08	16	18.0	10.7	62	8.0	1015.1	8	005	03	2	2	2	8	5	7	2	81825	86358		6	2Sc56 /Ac68 /Ci25 Cu hum	
7	82	7	23	06	11	18.0	14.1	78	9.9	1014.1	2	004	03	2	2	7	8	4	/	/	85815	87635		7	Cu med	
8	70	5	35	06	10	17.8	12.1	69	8.7	1021.0	2	009	01	2	2	5	8	5	0	0	85820			8	1Sc30 Cu hum	
9	84	6	23	06	12	18.5	9.7	56	7.4	1016.6	5	005	01	2	2	1	1	6	8	2	81830	86075		9	1Ac66 1Ci72 COTRA Cu hum Halo 22° part	
10	70	7	24	04	09	14.8	13.1	90	9.4	1011.2	0	003	21	6	2	2	5	3	7	/	81708	87360		10	2Sc50 Absent 10th to 20th vv&cld est	
11	78	6	26	03	07	16.2	13.7	85	9.7	1013.9	1	005	03	1	1	2	8	4	0	1	81815	85075		11	2SC50	
12	81	7	30	08	15	16.4	10.0	66	7.6	1016.5	2	007	03	2	2	7	8	5	7	/	81822	86650		12	/Ac60	
13	80	6	30	06	16	17.0	10.7	66	7.9	1018.0	2	001	03	1	1	5	8	5	7	/	83822	83650	85361	13	3Ac58	
14	62	8	31	04	09	14.3	12.1	86	8.7	1017.0	6	004	20	5	2	8	5	3	/	/	86708	88615		14		
15	62	7	02	08	20	17.2	14.5	84	10.2	1021.2	1	006	03	2	2	2	1	4	3	2	82812	87075		15	2Ac66	
16	75	6	34	10	19	15.4	10.7	73	8.0	1017.5	8	004	03	2	2	6	8	4	/	/	82815	85625		16		
17	70	8	23	07	15	16.4	13.2	82	9.4	1011.6	7	005	02	6	2	7	5	4	7	/	81712	83615	87630	17	/Ac58	
18	82	7	27	06	12	15.9	9.4	66	7.4	1008.7	2	001	03	1	1	7	8	5	/	/	82825	87656		18		
19	84	7	22	09	15	18.0	10.3	61	7.8	1012.3	0	008	03	1	1	1	8	5	3	1	81828	87070		19	1Sc40 2Ac68	
20	70	8	21	07	18	18.6	16.2	86	11.4	1015.0	3	013	20	5	2	8	5	3	/	/	83708	88611		20		
21	86	7	21	08	17	20.7	17.1	80	12.0	1018.8	2	007	02	2	2	7	5	4	/	/	82712	87615		21		
22	86	7	26	04	07	18.7	15.0	79	10.4	1015.3	5	001	03	6	2	7	8	4	3	/	81812	83815	87625	22	/Ac67 Cu hum	
23	63	7	25	08	17	16.5	15.0	91	10.7	999.3	2	036	03	6	2	7	5	4	/	/	86610	87615		23		
24	82	6	25	09	19	16.2	10.3	68	7.7	1008.4	2	006	03	1	1	6	8	5	0	0	85822			24	2Sc30 Cu hum	
25	78	7	22	04	08	15.8	11.3	75	8.3	1015.4	1	002	02	2	2	1	2	4	7	/	81815	83360	86462	25	/Ac65 Cu med	
26	70	7	22	08	15	18.4	16.9	91	12.0	1003.7	2	003	21	6	2	7	5	3	/	/	82708	85610	87625	26		
27	80	7	01	07	13	13.1	11.7	91	8.5	1009.2	2	023	01	6	2	6	5	4	7	/	82710	83656	87358	27	2Sc45	
28	86	1	31	09	16	16.3	9.3	63	7.4	1021.1	2	007	03	0	0	1	1	5	3	1	81825			28	1Ac57 1Ci75 COTRA Cu hum	
29	83	6	27	09	19	16.3	9.4	64	7.4	1016.7	8	011	03	2	2	1	1	5	4	/	81825	83357	85362	29		
30	84	1	35	09	18	13.8	6.9	63	6.2	1024.3	2	011	03	0	0	1	1	5	0	1	81825			30	1Ci75 Cu hum	
31	70	3	08	02	05	14.4	10.8	79	7.9	1027.4	1	002	03	4	0	1	6	3	0	1	81708	83081		31	1Cu12 COTRA Cu hum	

Mean vis = 33.5 km

Mean cloud = 6.3 79%

Mean wind speed = 6.5 kn

Mean gust = 13 kn

Mean TT = 16.7 °C

Mean TdTd = 11.9 °C

Mean RH = 73.9 %

Mean r = 8.7 g/kg

Mean PPP = 1014.8 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 August 2010

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cl	Nh	shs	N	shs	N	shs	Date	Remarks
1	84	7	29	05	11	21.3	9.3	46	7.3	1012.9	5	002	02	2	2	2	8	6	7	1	81848	87357					1	2Sc56 /Ci75 Cu med
2	83	7	29	06	14	21.5	8.0	42	6.6	1016.7	6	004	02	2	2	2	8	6	7	1	82848	86358					2	1Sc56 Cu med
3	80	7	23	06	13	21.4	10.9	51	8.0	1014.5	7	015	15	2	2	6	8	6	3	1	83840	84645	85357				3	/Ci75 COTRA Cu med jpNW vv60k exNW
4	86	7	01	06	16	18.2	11.9	67	8.8	1006.1	3	005	15	9	2	4	9	5	7	3	81920	85358					4	2Cu25 2Sc45 2Ci72 jp W&N
5	83	7	29	08	16	19.9	6.3	41	5.9	1013.2	3	004	02	2	2	7	8	7	1	1	81850	87657					5	2Sc56 Cu med
6	67	8	20	12	20	18.1	14.5	79	10.2	1014.2	7	003	21	6	2	8	5	4	1	1	86615	88625					6	
7	82	7	21	05	09	19.8	14.3	71	9.9	1014.4	0	006	15	8	2	3	8	5	7	1	82823	87360					7	2Sc56 Cu con jpNW
8	81	7	05	02	10	23.8	8.3	37	6.5	1019.2	7	008	02	1	1	3	4	7	0	1	82850	86076					8	2Sc56 COTRA Cu hum
9	82	2	22	09	19	24.1	10.0	41	7.5	1013.3	7	015	02	0	0	2	1	7	3	1	82850						9	1Ac62 1Ci78 Absent 9th to 20th vv&cld est
10	40	8	19	05	09	16.8	15.8	94	11.2	1009.0	8	018	58	6	5	8	5	2	1	1	85705	87710	88615				10	
11	83	7	25	06	11	20.6	9.3	48	7.3	1013.2	8	004	02	2	2	6	8	6	1	1	82845	85656	85075				11	
12	82	7	30	06	17	18.9	8.9	52	7.1	1016.7	7	001	02	2	2	7	8	6	3	1	84840	85650	86359				12	
13	70	7	31	05	07	15.0	13.1	88	9.3	1017.3	7	003	80	8	6	7	8	4	1	1	82710	83818	87656				13	
14	80	7	05	04	09	17.2	13.8	80	9.7	1016.2	6	004	15	8	2	7	9	4	6	1	81915	83825	85656				14	/Ac62
15	82	7	02	11	20	20.7	10.9	53	8.0	1020.7	5	004	02	2	2	7	8	6	1	1	82840	87650					15	/Ci78
16	80	2	31	09	21	24.2	8.1	36	6.7	1014.8	6	012	02	0	0	1	1	7	0	1	81850						16	2Ci75
17	81	7	21	07	12	19.5	14.9	75	10.6	1009.3	7	014	02	5	2	7	8	4	1	1	85818	87625					17	
18	84	7	24	09	18	18.0	10.2	60	7.8	1008.0	5	003	15	2	2	7	8	7	1	1	82850	87657					18	
19	80	7	21	10	17	20.1	11.0	56	8.2	1012.6	8	004	03	2	2	3	8	6	7	1	82835	85358	86362				19	2Sc50
20	80	8	21	09	20	20.4	16.6	79	11.7	1016.0	1	003	02	5	2	8	5	4	1	1	88612						20	
21	60	8	21	08	17	20.9	18.0	84	12.7	1018.4	8	006	50	5	2	8	5	4	1	1	83710	88613					21	vv60k NW
22	86	7	22	06	12	21.9	15.6	68	10.9	1012.1	7	022	15	2	2	3	8	5	7	1	83825	83365	85075				22	1Sc35 1Ac58 Cu med COTRA jpW
23	84	3	26	14	27	20.6	13.8	65	9.8	998.2	5	006	25	8	1	3	9	5	6	3	81920	83825					23	1Ac60 1Ci70 jpNW
24	82	2	26	18	33	19.7	8.3	48	6.7	1009.6	1	005	01	8	1	2	2	6	0	0	82845						24	Cu med
25	58	8	11	06	12	13.9	12.8	93	9.1	1012.6	7	019	61	6	6	7	8	3	2	1	82706	85625	88540				25	2Cu10 Cu med
26	18	8	34	02	06	17.6	16.6	94	11.8	1004.1	8	004	59	6	5	7	7	2	2	1	83703	86705	88520				26	
27	86	7	36	08	17	17.4	8.2	55	6.7	1013.1	2	018	02	2	2	3	8	6	3	1	82838	86075					27	2Sc50 1Ac58 COTRA Cu med
28	85	6	27	09	17	18.8	6.8	46	6.0	1019.8	6	010	03	1	1	3	2	6	6	1	83848	85357					28	/Ci75 Cu med
29	80	2	28	07	29	15.3	11.2	77	8.3	1014.8	5	002	25	8	1	1	2	5	6	0	81820						29	2Ac58 Cu conSW jp SE-W vv50k ex p
30	82	5	01	05	15	17.8	7.7	52	6.5	1024.8	7	002	02	2	2	5	8	6	0	0	81840	85650					30	Cu med
31	81	2	06	03	10	19.7	6.7	43	6.1	1024.5	7	019	01	1	1	1	4	7	0	1	81650						31	2Ci81 COTRA

Mean vis = 35.7 km

Mean cloud = 6.2 77%

Mean wind speed = 7.3 kn

Mean gust = 16 kn

Mean TT = 19.5 °C

Mean TdTd = 11.3 °C

Mean RH = 62.0 %

Mean r = 8.5 g/kg

Mean PPP = 1013.9 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

covers past 3 hours.

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs = Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

Wokingham Sunshine Hourly analysis 2010	Hour	01-Aug	02-Aug	03-Aug	04-Aug	05-Aug	06-Aug	07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.26	0.00	0.16	0.11	0.00	0.00	0.00	0.00	0.00	0.14	0.03	0.00	0.00	0.00	0.00
5	0.00	0.00	1.00	0.12	1.00	0.28	0.08	0.00	0.30	0.00	0.00	1.00	0.20	0.03	0.00	0.00	0.00
6	0.00	0.00	1.00	0.00	0.85	0.86	0.55	0.00	0.73	0.00	1.00	0.00	0.61	0.00	0.00	0.00	0.00
7	0.00	0.02	0.69	0.00	0.90	0.64	0.09	0.07	0.96	0.00	1.00	0.19	1.00	0.00	0.20	0.15	0.00
8	0.00	0.66	0.00	0.28	0.37	0.10	0.00	0.39	0.96	0.00	0.55	0.14	0.61	0.00	0.84	0.47	0.00
9	0.00	0.70	0.31	0.00	0.29	0.02	0.00	0.89	1.00	0.00	0.44	0.00	0.01	0.00	0.91	0.07	0.00
10	0.00	0.34	0.78	0.03	0.44	0.00	0.04	0.96	0.99	0.02	0.62	0.01	0.00	0.00	0.51	0.62	0.00
11	0.06	0.16	0.01	0.16	0.33	0.00	0.04	0.96	0.91	0.00	0.01	0.00	0.00	0.00	0.00	0.99	0.00
12	0.45	0.34	0.00	0.02	0.42	0.00	0.03	0.84	1.00	0.00	0.00	0.00	0.00	0.18	0.18	0.89	0.00
13	0.00	0.25	0.00	0.41	0.17	0.00	0.13	0.17	1.00	0.00	0.28	0.00	0.00	0.26	0.15	0.96	0.00
14	0.00	0.13	0.08	0.11	0.02	0.00	0.13	0.46	1.00	0.00	0.12	0.00	0.00	0.24	0.00	0.98	0.00
15	0.06	0.00	0.09	0.00	0.09	0.00	0.07	0.34	0.29	0.00	0.08	0.15	0.00	0.00	0.18	1.00	0.00
16	0.03	0.00	0.20	0.00	0.27	0.00	0.00	0.29	0.08	0.00	0.03	0.00	0.00	0.26	0.34	0.98	0.00
17	0.00	0.00	0.02	0.28	0.19	0.00	0.60	0.28	0.00	0.00	0.37	0.11	0.01	0.00	0.69	0.79	0.00
18	0.00	0.00	0.00	0.42	0.07	0.00	0.27	0.32	0.38	0.00	0.15	0.06	0.00	0.00	0.35	0.11	0.00
19	0.00	0.17	0.00	0.19	0.07	0.00	0.19	0.00	0.00	0.13	0.15	0.10	0.00	0.06	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		0.61	2.78	4.43	2.03	5.63	2.02	2.22	5.97	9.60	0.15	5.93	0.99	2.28	1.02	4.34	8.00

Hour	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	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	0.02	
5	0.00	0.70	0.40	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.35	0.10	0.49	0.00	0.22	
6	0.00	1.00	0.37	0.00	0.03	0.00	0.05	0.73	0.00	0.00	0.00	0.98	0.32	1.00	0.93	0.36	
7	0.00	0.82	1.00	0.00	0.17	0.00	0.00	1.00	0.31	0.00	0.00	1.00	0.05	1.00	1.00	0.40	
8	0.00	0.09	0.98	0.00	0.01	0.00	0.00	0.66	0.05	0.00	0.00	1.00	0.78	1.00	1.00	0.35	
9	0.00	0.00	0.48	0.00	0.05	0.00	0.28	0.51	0.00	0.00	0.19	0.82	0.33	0.88	1.00	0.30	
10	0.00	0.39	0.56	0.00	0.25	0.02	0.46	0.20	0.00	0.03	0.34	0.77	0.00	0.53	1.00	0.32	
11	0.00	0.25	0.00	0.00	0.00	0.00	0.01	0.42	0.00	0.03	0.00	0.74	0.07	0.39	1.00	0.21	
12	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.39	0.00	0.00	0.68	0.43	0.08	0.32	0.90	0.23	
13	0.00	0.12	0.00	0.00	0.00	0.10	0.17	0.80	0.00	0.00	0.00	0.89	0.39	0.56	0.98	0.25	
14	0.00	0.03	0.25	0.00	0.00	0.14	0.39	1.00	0.00	0.00	0.24	0.48	0.18	0.33	1.00	0.24	
15	0.57	0.19	0.04	0.00	0.00	0.06	0.66	0.94	0.00	0.00	0.93	0.31	0.96	0.41	1.00	0.27	
16	0.99	0.84	0.00	0.00	0.00	0.00	0.95	1.00	0.00	0.00	0.23	0.30	0.99	0.28	1.00	0.29	
17	0.58	0.71	0.16	0.00	0.00	0.00	0.99	1.00	0.00	0.00	0.13	0.70	1.00	0.00	1.00	0.31	
18	0.56	0.73	0.00	0.00	0.01	0.00	0.89	0.72	0.00	0.00	0.57	0.27	0.78	0.03	0.48	0.23	
19	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
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		2.70	6.00	4.24	0.00	0.54	0.31	4.84	10.11	0.37	0.06	3.32	9.04	6.03	7.22	12.29	125.08

August 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	17.74	22.2	1221	12.8	112	66.1	87.5	114	38.9	1222	10.88	8.10	10.0	904	6.4	1201	1013.28	1015.3	2359	1012.2	405	0.0
2	17.95	23.1	1412	13.5	312	60.5	82.4	332	36.2	1352	9.79	7.49	9.1	902	6.1	1352	1016.96	1018.1	2325	1015.1	0	0.0
3	16.94	22.6	1600	9.5	459	68.9	94.2	511	47.5	1442	10.89	8.09	10.2	2149	6.8	451	1015.56	1018.1	600	1011.1	2355	0.0
4	15.97	19.5	1222	12.5	2114	74.9	90.5	1056	51.6	1756	11.42	8.46	11.7	1135	6.4	2313	1008.06	1011.4	0	1004.7	1246	3.0
5	15.91	20.8	1305	9.7	520	62.3	92.0	534	37.9	1526	8.14	6.73	8.4	724	5.5	1910	1012.85	1015.4	2355	1010.3	3	0.0
6	16.16	19.9	951	10.0	302	81.2	93.7	305	58.1	953	12.82	9.25	11.3	1840	7.0	214	1014.56	1016.7	907	1013.1	1901	0.0
7	17.69	21.5	1524	14.8	2359	79.2	94.9	458	55.5	1529	13.93	9.86	11.8	1324	8.4	2359	1014.87	1018.6	2359	1013.4	317	2.5
8	18.47	24.8	1444	12.6	353	63.5	92.0	532	33.0	1413	10.58	7.91	10.3	835	5.8	1225	1019.41	1021.2	820	1017.9	1904	0.0
9	18.28	24.3	1442	12.6	308	67.0	89.0	314	36.7	1431	11.52	8.46	10.8	2339	6.6	1322	1015.14	1018.6	1	1011.9	2354	0.0
10	16.03	18.0	1736	13.0	728	89.8	97.5	2347	70.4	1214	14.33	10.19	12.0	1736	8.3	728	1010.30	1012.2	0	1007.6	1728	9.2
11	15.53	21.4	1433	9.6	443	74.7	98.5	605	43.2	1727	10.39	7.84	10.5	950	6.4	1715	1013.50	1015.3	2339	1011.4	0	0.2
12	14.52	19.8	1553	10.1	446	78.3	96.1	2108	48.7	1554	10.48	7.85	9.5	1834	6.8	1109	1016.68	1018.8	2214	1014.9	50	2.1
13	13.59	17.2	858	10.1	156	87.3	96.2	2022	65.2	900	11.46	8.37	9.9	1425	7.2	117	1017.90	1018.6	15	1016.9	1605	5.2
14	13.74	17.8	1408	11.1	2309	89.8	98.0	2323	70.3	1416	12.07	8.71	10.5	1628	7.9	2309	1017.54	1019.9	2319	1015.9	1420	5.8
15	16.36	22.6	1345	8.9	420	75.6	98.8	552	47.9	1159	11.44	8.36	10.9	805	6.9	420	1020.43	1021.6	1006	1019.5	2	0.0
16	17.71	24.9	1551	10.9	452	65.2	94.9	456	32.1	1552	10.29	7.75	9.2	1223	6.1	1534	1016.36	1019.8	0	1013.9	1819	0.0
17	17.10	21.1	1618	14.4	449	81.1	91.9	600	67.7	2	13.81	9.83	11.3	1527	8.0	2	1010.48	1014.3	0	1007.3	1851	0.4
18	15.89	20.4	1329	10.5	519	68.3	93.6	2359	35.8	1331	9.66	7.52	9.1	2102	5.2	1259	1008.46	1010.5	2357	1007.3	1624	0.6
19	16.35	20.8	1440	11.0	505	73.0	94.6	518	51.5	1735	11.16	8.24	9.8	756	7.1	1812	1012.21	1013.5	2309	1010.1	57	0.2
20	18.85	20.7	1420	16.7	258	83.2	92.0	2204	74.8	0	15.95	11.24	12.5	2330	9.1	1	1015.19	1017.7	2359	1012.7	159	0.0
21	19.92	22.7	1354	18.5	2020	84.4	90.8	0	73.8	1038	17.20	12.10	13.2	1254	11.4	2040	1018.04	1019.2	1246	1016.7	2356	0.0
22	19.11	22.7	1359	17.1	626	82.4	96.9	2356	59.2	1403	15.91	11.22	12.3	2121	9.6	1405	1012.62	1017.0	16	1003.2	2357	5.7
23	17.21	21.1	1509	11.8	2337	81.3	97.4	223	52.5	1755	13.78	10.05	12.6	324	6.8	1906	999.77	1005.9	2359	994.7	506	15.9
24	14.90	20.0	1449	10.5	519	71.5	91.1	527	42.9	1726	9.47	7.39	10.1	1317	5.6	1726	1009.71	1014.9	2343	1005.8	1	2.5
25	13.38	17.3	946	9.8	359	89.1	98.0	2358	62.9	957	11.55	8.49	9.9	2356	6.9	355	1012.36	1015.6	835	1005.0	2352	21.8
26	16.92	19.9	1201	13.5	2355	94.3	98.5	159	82.7	1205	16.00	11.40	12.7	259	9.4	2355	1003.97	1005.2	2	1003.1	449	4.0
27	13.92	18.6	1448	10.5	2043	81.2	97.3	253	50.7	1431	10.44	7.88	9.5	10	6.4	1613	1011.32	1019.0	2342	1004.2	109	2.8
28	14.90	20.2	1406	9.6	524	67.4	93.3	346	38.7	1322	8.42	6.81	7.9	1	5.3	1255	1020.20	1021.3	924	1018.7	5	0.0
29	14.12	18.6	1326	9.6	2351	67.1	84.9	504	29.5	1627	7.77	6.61	8.7	1522	3.6	1627	1017.43	1021.0	2356	1013.7	1319	0.5
30	12.89	19.1	1553	8.2	511	69.8	94.6	2349	45.1	1421	7.19	6.24	7.5	1320	5.3	415	1024.47	1027.3	2341	1020.9	2	0.0
31	12.58	20.3	1517	5.2	505	74.5	98.1	703	37.9	1522	7.31	6.30	8.7	903	5.2	505	1025.55	1027.5	919	1023.1	1738	0.0
Total																						82.4
Mean	16.15	20.77		11.55		75.9	93.85		50.94		11.49	8.54	10.38		6.87		1014.36	1017.07		1011.50		
Max	19.92	24.86		18.47		94.3	98.80		82.70		17.20	12.10	13.15		11.42		1025.55	1027.49		1023.05		
Min	12.58	17.24		5.23		60.5	82.40		29.54		7.19	6.24	7.53		3.55		999.77	1005.19		994.74		

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

WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

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

Seasonal Means and Totals

SUMMER 2010

Temperature (°C)

Rank in the past 129 years

Mean maximum	22.5	(+1.0)	23 rd highest
Mean minimum	11.8	(+0.3)	16 th highest
Daily mean	17.2	(+0.7)	17 th highest
Rainfall total (mm)	142.7	(97 %)	55 th lowest
Sunshine total (hours)	538.8	(93 %)	
N ^o of: Dry days	55 (-4)	Wet days	25 (+2)
Days with: Air frost	0 (0)	Ground frost	1 (-1)
Thunder	4 (-3)	Hail ≥5mm	1
		Small hail/ice	0
Air pressure MSL : Mean @09 GMT (mbar)	1016.2		(-0.9)

Departure from 1971 to 2000 average shown in brackets.

Notes: **Warm with Below Average Rainfall and Sunshine.**

This has been a summer where the weather began well but ended poorly. June was a fine month, sunny warm and dry, but while it remained fairly dry in July, it became much less sunny. By August it had become wet, cool and dull. **Temperature:** Both the mean max and daily mean are highest since 2006, but the mean min is equal lowest with several years since 1999. While the overall mean temperature is 0.7° above the current 30 year climatological average, it is 1.1° above the long-term median, attesting to the ongoing warming trend. The number of days with a max of 25° or more was 21 this summer, compared with a 35 year average of 18.4. 30° was reached on only one day, compared with 13 in both 1976 and 1995, and 11 in 2006. The 9th of July saw the seasons highest max of 30.0°, close to the long-term median. The lowest max of 15.5° was on the 19th June, and is 1.1° above the median. The highest min of 18.6° on the 21st August is 1.5° above the median, but 1.0° below the record set in 1997. The lowest min was 4.9° on the 31st August, 0.6° above the median. The mean grass min was 8.4°, 0.5° below average, and the lowest was -0.7° on the 17th June. Mean earth temperatures were 17.9° and 16.4° at 30 cm and 1 m depth respectively, both slightly below average. **Rainfall:** The overall rainfall for the season is slightly less than average. The total of 142.7 mm is a little more than in 2009, but a good deal less than in the previous 2 years. Compared to the long-term, the total is 14 mm below the median. The lack of adequate rainfall during the early summer, following a dry spring season, resulted in severe stress for shallow rooted unirrigated plants between the 19th June and 8th August, while the estimated soil moisture deficit reached a maximum of 252 mm on the latter date. This deficit, compared with the 35 year average, was +34 mm on the 30th May, +82 mm on the 19th July and +68 mm on the 13th August. June was the driest month with 20.2 mm and August the wettest with 87.8 mm. The duration of measurable rain was 96.3 hours, 12.1 hours above average. The wettest day was the 25th August when 24.6 mm fell. The highest rainfall rate was 123 mm/hr on the 15th July at 0011 GMT. The number of dry days is 4 fewer than average. There were only 2 dry spells, one of 9 days ending on the 27th June and one of 8 days ending on the 6th July. Thunder was absent in June, with 1 day in July and 3 in August. 1 cm diameter hail fell on the 22nd July. **Sunshine:** In common with the previous 3 summers, sunshine was well below average. June fared best with a daily mean of 8.29 hours, but July's 5.33 hours is 15 % below average and August's 4.03 hours is 36 % below average. The sunniest day was the 3rd June with 15.6 hours. Overall there were 30 days with <3 hours, 38 with =>6 hours, 24 with =>9 hours, 11 with =>12 hours and 4 with =>15 hours. **Wind:** The mean wind speed this summer was an exactly average 6.1 mph. The windiest day was the 15th July, mean speed 13.7 mph, but the highest gusts of 38 mph were on the 15th July and 24th August. July was the windiest month, mean speed 6.6 mph, and June the least windy, mean 5.5 mph. The least windy day was the 31st August with 2.4 mph. There was a total of 28.5 hours with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,11 NE,6 E,3 SE,5 S,6 SW,34 W,21 NW,6. Compared with average, W winds were 7.5 % more frequent at the expense of S winds, 7.3 % less frequent. **Humidity:** The overall mean relative humidity was 70.3 %. The lowest value recorded was 24 % on the 28th June. The mean water vapour content per kg of air was 8.5 g at 0900 GMT and 7.9 g at 1500 GMT.

June: Dry, sunny and very warm. Mean max 3.0° above average and 5th highest in 129 years. Mean daily temperature range highest since 1976. Mean grass min lowest since 1980. Dry overall with just one third of average rainfall. Second sunniest since 1996.

July: Very warm and dry but sunshine below normal. Mean min 4th highest in 129 years. Lowest max 4th highest in 98 years. The 5th consecutive month with below average rainfall.

August: Wet and very dull with temperature below average. Mean max and highest max lowest since 1986. Highest min 7th highest in 98 years. Lowest air min and grass min are lowest since 1993. Rainfall total and highest daily fall highest since 1999. Duration of rain highest since before 1993. Sunshine appx. 5th lowest in 103 years.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Wind Mn mph	Max gust	Mean pressure	Anom
June	22.8	+3.0	10.0	-0.1	20.2	37 %	248.7	132 %	5.5	29	1017.9	+0.9
July	23.9	+1.4	13.6	+1.3	34.7	84 %	165.2	85 %	6.6	38	1015.9	-1.5
August	20.8	-1.4	11.9	-0.1	87.8	172 %	124.9	64 %	6.4	38	1014.8	-2.3

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

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/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 of sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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