

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

JUNE 2010

Temperature (°C / °F)			Anomaly	Rank in the past 129 years			
Mean maximum	22.8	73.0	+3.0	5 th highest			
Mean minimum	10.0	50.0	-0.1	53 rd highest			
Daily mean	16.4	61.5	+1.4	11 th highest			
Highest maximum	29.0	84.2	on 27 th	Lowest maximum	15.5	59.9	on 19 th
Highest minimum	15.0	59.0	on 29 th	Lowest minimum	5.7	42.3	on 19 th
Mean grass minimum	5.8	42.4	-1.9	Lowest grass minimum	-0.7	30.7	on 17 th
Mean earth @30 cm	16.6	61.9	+0.3	Earth @100 cm	14.7	58.5	
Frost duration (hrs)	0.0			Rain duration (hrs)	15.8		
Rainfall total (mm / in)	20.2	0.80	37 %	22 nd lowest			
Highest daily fall	9.5	0.36	on 7 th				
Number of: Dry days (<0.2mm)	23	Wet days (>0.9mm)	5	days ≥5mm	2		
Sunshine total (hrs) 248.7	Daily mean 8.29	132 %		Sunniest day 15.6		on 3 rd	
N° days with: Air frost 0	Ground frost 1	Snow falling 0	Snow lying 0				
Thunder 0	Hail ≥5mm 0	Small hail/ice 0	Fog @09 0	Nil sun 2			
Air pressure MSL : Mean @09 GMT (mbar/in)	1017.9	+0.9	30.06				
Absolute highest	1029.0		30.39	on 15 th			
Absolute lowest	1000.0		29.53	on 8 th			

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

Notes: **Dry, Sunny and Very Warm.**

Temperature: At 3.0° above the climatological average, the mean maximum this June has only been exceeded in 1940, 1970, 1976 and 2006 in the past 129 years. The mean min, however, is 0.1° below the average and is lowest since 2001. The resulting mean temperature ranks 11th highest since 1882. Such a large disparity between the mean max and min points to an unusually large daily mean temperature range, which at 12.8° is 2.8° above average and highest since 1976. It is also associated with less cloud than normal, especially by night, and the mean grass min is 1.9° below average and lowest since before 1980. The highest max is 2.0° above the median, but is 6th lowest in the past 10 years. The lowest max is 0.7° above the median, while the highest min is close to its median, and the lowest min is 1.0° above the median. A slight ground frost was recorded on the 17th, with about 1 in 3 Junes having one. Earth temperatures are close to average.

Rainfall: This has been a dry June overall, with just over one third of the average rainfall. In recent years the Junes in 2009, 2006, 2005 and 2004 were also dry. The estimated soil moisture deficit stood at 188 mm at the end of the month, about 60 mm above average and highest since 1996. There were 4 more dry days than average and a 9 day dry spell ended on the 27th. Rainfall duration is lowest since 2006. A rain rate of 55 mm/hr on the 8th is the highest for the month. Thunder was completely absent for the first June since 2001, and only the 4th time in 35 years. **Sunshine:** This has been a sunny June, the second sunniest since 1996. The 7 day period 22nd to the 28th was outstanding with a total of 97.7 hours, a mean of 14.0 hours per day. The period 6th to the 14th was least sunny with a mean of 3.2 hours per day. Overall there were 5 days with <3 hours, 15 with =>6 hours, 14 with =>9 hours, 10 with =>12 hours and 4 with =>15 hours. **Wind:**

The overall mean wind speed of 5.5 mph is 0.7 mph below average. The 10th was the windiest day, mean 10.4 mph, but the month's highest gust of 29 mph was on the 19th. The 1st was the least windy day, mean 3.0 mph, and there were 788 minutes (13.1 hours) with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,6 NE,6 E,2 SE,3 S,2 SW,6 W,5 NW,0. **Humidity:** The overall mean relative humidity was 67.0 %, with a minimum value of 24 % recorded on the 28th. The mean water vapour content per kg of air was 7.8 g at 0900 GMT and 7.1 g at 1500 GMT. **Commentary: From the 1st to the 6th:** Temperatures by day were generally above normal except on the 1st. It was hot on both the 4th and 5th, with anomalies for daily max of near +8°. Values were mostly below normal by night, with an anomaly of -2.6° on the 4th. Some rain fell on the 1st and 6th, and it was also dull on those days, otherwise sunny. Winds were mainly light, E'ly at first, becoming W'ly by the 6th. **From the 7th to the 20th:** Temperatures were mainly close to normal, with extreme anomalies for daily max of +2.8° on the 17th and -4.7° on the 19th, and for daily min +3.0° on the 10th and -4.2° on the 19th. Most of the month's rain fell in this period, with 9.2 mm on the 7th and 5.5 on the 13th, though 10 of the 14 days were dry. Sunshine was below normal for much of the time, the exceptions being the 15th to 17th and the 20th. Winds were mostly moderate, but fresh on the 10th, SW'ly on the 7th, backing N'ly on the 10th, and remaining between N and NE until the 20th, apart from a brief S'ly on the 13th. **From the 21st to the 30th:** A second and longer hot spell in this period saw anomalies for daily max between +3.4° on the 30th and +7.7° on the 27th. Anomalies for daily min, however, were close to normal. Rain only on the 28th and then just 0.8 mm. Very sunny for much of the time. Mostly light winds were W'ly until the 24th, veering N'ly on 25th then SW'ly by the 27th.

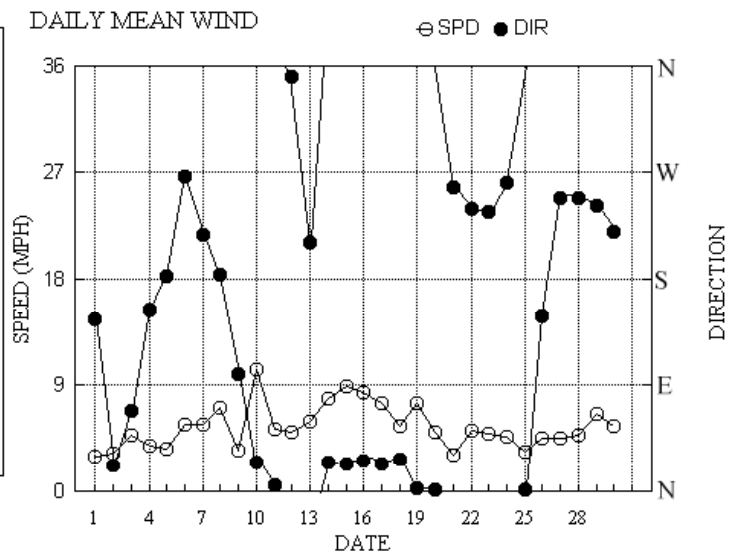
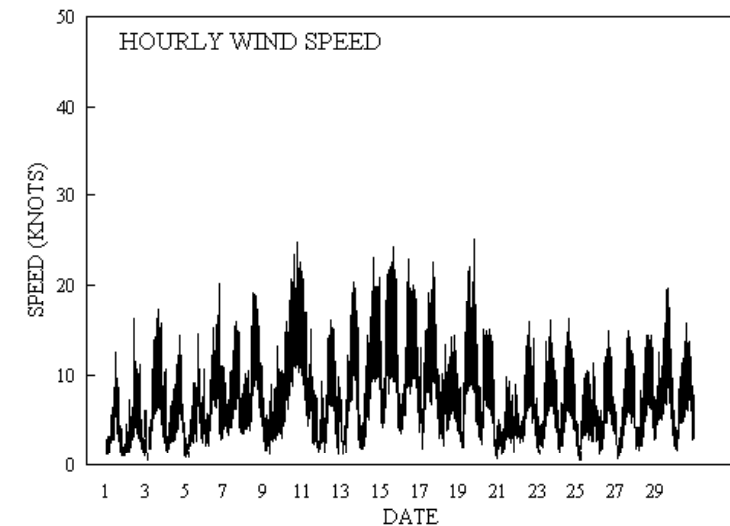
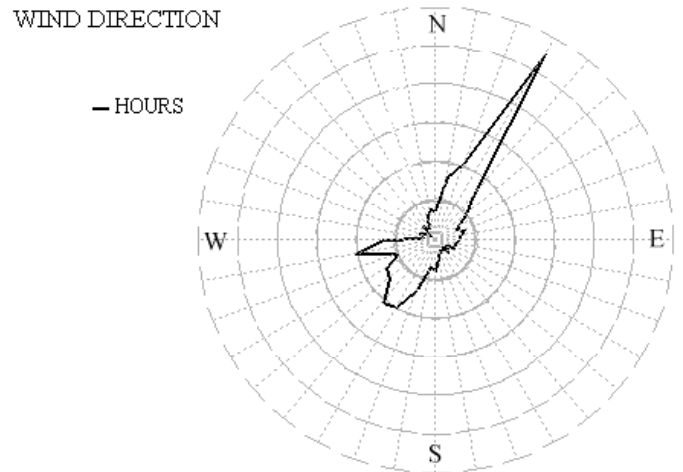
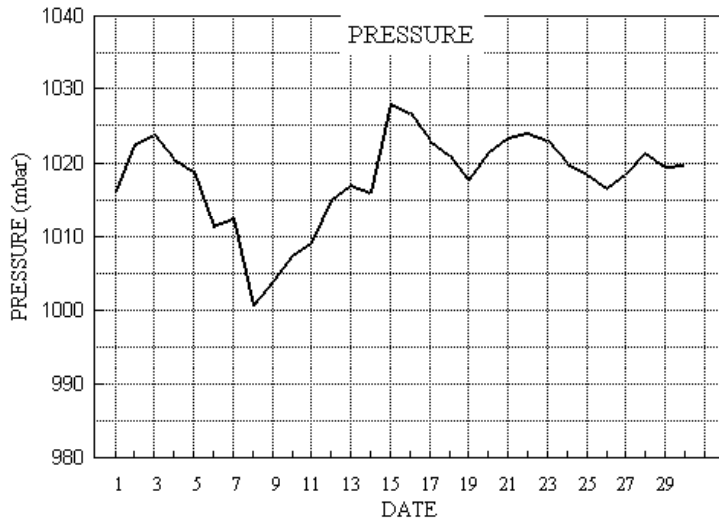
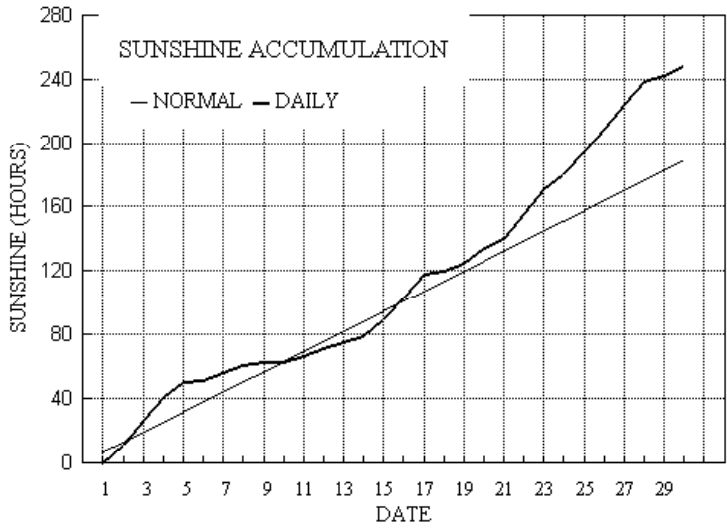
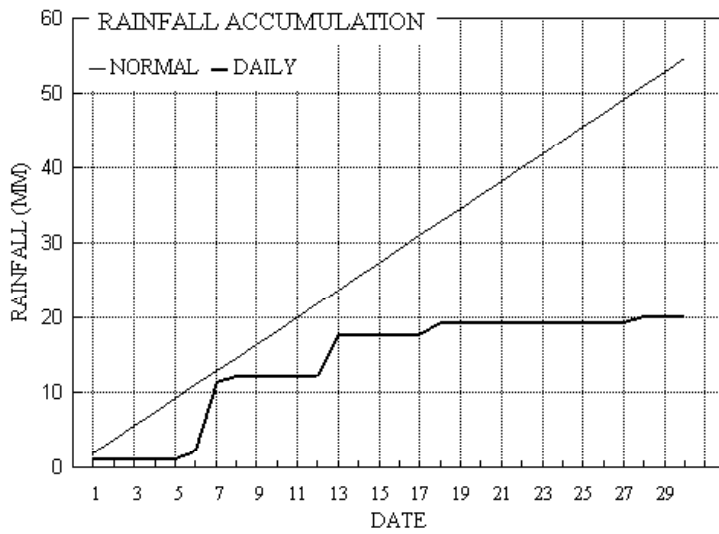
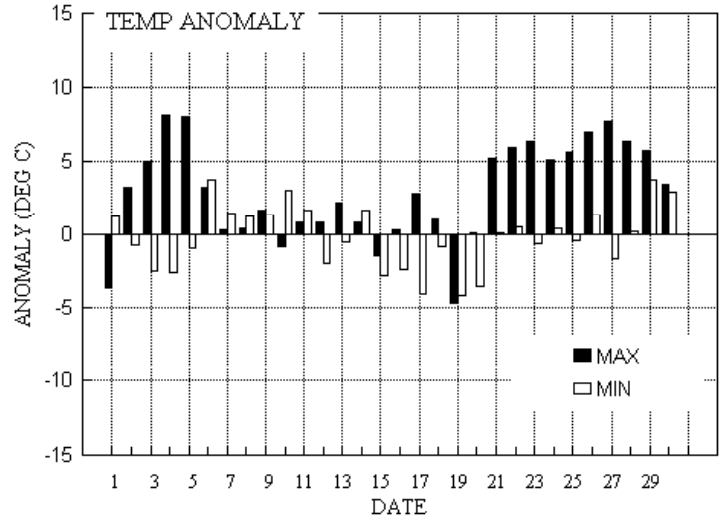
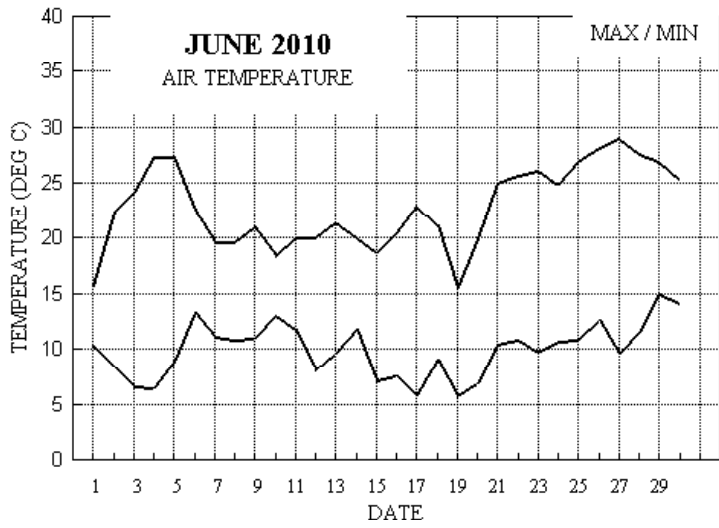
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
+2.6°	+0.5°	66 %	100 %	+0.3°	-1.7°	38 %	114 %	+5.8°	+0.6°	4 %	181 %

B J Burton FRMetS

Hon. Met. Officer to Wokingham Town Council.

Wokingham Climatological Graphs for June 2010



Month: JUNE 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	15.6	10.3	1.2	6.8	14.7	13.5	0.0	0.0	1016.1	0	0	0	0	146	1.7	2.6	133	13	1053	151	6	11	1.9	
2	22.4	8.4	0.0	3.5	14.5	13.5	11.2	0.0	1022.4	0	0	0	0	22	2.4	2.8	25	16	0924	18	5	11	0.0	
3	24.2	6.6	0.0	2.5	15.1	13.5	15.6	0.0	1023.9	0	0	0	0	69	4.1	4.2	78	17	1440	87	7	18	0.0	
4	27.3	6.5	0.0	1.9	15.5	13.6	14.5	0.0	1020.5	0	0	0	0	154	1.7	3.4	195	15	1725	198	8	17	0.0	
5	27.3	8.8	0.0	4.7	16.1	13.7	8.9	0.0	1018.8	0	0	0	0	182	1.7	3.2	192	15	1609	196	7	16	0.0	
6	22.5	13.4	1.1	9.1	16.6	13.9	1.6	0.0	1011.4	0	0	0	0	266	4.5	5.0	317	20	1745	262	8	15	0.2	
7	19.6	11.1	9.2	6.9	16.5	14.1	4.1	0.0	1012.5	0	0	0	0	217	3.9	5.0	213	16	1520	212	8	15	8.6	
8	19.7	10.9	0.7	9.9	16.4	14.3	5.0	0.0	1000.7	0	0	0	0	183	4.5	6.2	210	19	1127	204	10	14	0.2	
9	21.0	11.0	tr	7.4	16.4	14.4	1.7	0.0	1003.9	0	0	0	0	100	1.9	3.1	92	14	1735	87	6	17	0.0	
10	18.4	13.1	tr	11.1	16.6	14.5	0.0	0.0	1007.5	0	0	0	0	25	9.0	9.0	20	25	1624	24	12	16	0.0	
11	20.0	11.8	0.0	11.8	16.1	14.6	4.1	0.0	1009.1	0	0	0	0	6	3.8	4.6	27	21	0040	24	11	00	0.0	
12	20.0	8.1	tr	1.9	16.0	14.6	4.5	0.0	1014.9	0	0	0	0	351	2.4	4.4	22	16	1057	339	7	08	0.0	
13	21.4	9.6	5.5	4.0	16.1	14.6	3.8	0.0	1017.1	0	0	0	0	210	4.5	5.2	202	21	1425	209	10	14	1.5	
14	20.0	11.8	0.0	10.6	16.3	14.6	4.4	0.0	1016.0	0	0	0	0	25	6.7	6.8	25	23	1544	20	11	15	0.0	
15	18.7	7.1	0.0	1.2	16.1	14.7	10.6	0.0	1027.9	0	0	0	0	24	7.7	7.7	26	25	1422	24	11	07	0.0	
16	20.5	7.5	0.0	1.5	15.9	14.7	13.4	0.0	1026.7	0	0	0	0	26	7.3	7.3	22	23	0902	23	11	18	0.0	
17	23.0	5.8	0.0	-0.7	16.0	14.8	15.4	0.0	1022.9	0	1	0	0	24	6.5	6.5	21	23	1548	17	10	15	0.0	
18	21.2	9.1	1.7	2.6	16.4	14.8	1.8	0.0	1020.9	0	0	0	0	27	4.7	4.8	29	15	1830	24	7	16	2.8	
19	15.5	5.7	0.0	1.0	16.4	14.9	4.5	0.0	1017.7	0	0	0	0	3	6.4	6.5	3	25	1818	1	10	12	0.0	
20	19.9	6.8	0.0	2.2	15.6	14.9	9.6	0.0	1021.4	0	0	0	0	2	3.9	4.4	4	15	0655	358	7	07	0.0	
21	25.0	10.4	0.0	6.1	15.9	14.9	5.9	0.0	1023.4	0	0	0	0	257	0.8	2.7	287	10	1041	217	5	21	0.0	
22	25.7	10.8	0.0	6.8	16.7	14.9	15.5	0.0	1024.0	0	0	0	0	239	4.2	4.5	233	16	1455	229	7	13	0.0	
23	26.1	9.7	0.0	5.5	17.2	15.0	14.7	0.0	1023.0	0	0	0	0	236	4.1	4.3	278	16	1613	218	7	18	0.0	
24	24.9	10.7	0.0	6.4	17.6	15.1	10.0	0.0	1020.0	0	0	0	0	261	3.7	4.1	272	16	1342	242	7	12	0.0	
25	26.9	10.9	0.0	7.0	17.7	15.3	14.2	0.0	1018.4	0	0	0	0	2	1.4	3.0	192	12	2050	198	5	21	0.0	
26	28.2	12.6	0.0	8.5	18.1	15.4	14.2	0.0	1016.6	0	0	0	0	148	2.6	3.9	152	15	1413	173	6	14	0.0	
27	29.0	9.6	0.0	4.9	18.3	15.6	15.1	0.0	1018.4	0	0	0	0	248	3.6	4.0	267	15	1447	254	7	15	0.0	
28	27.6	11.5	0.8	6.5	18.7	15.8	14.0	0.0	1021.4	0	0	0	0	248	3.7	4.2	211	15	1518	232	7	16	0.6	
29	27.0	15.0	0.0	11.7	19.0	16.0	4.5	0.0	1019.5	0	0	0	0	241	5.5	5.8	271	20	1632	259	10	16	0.0	
30	25.3	14.2	0.0	9.9	19.0	16.2	5.9	0.0	1019.7	0	0	0	0	220	4.7	4.8	187	16	1335	218	7	17	0.0	
Total			20.2				248.7	0.0																15.8
Mean	22.8	10.0		5.8	16.6	14.7	8.29	0.0	1017.9					344	0.9	4.8								
Anom	+3.0	-0.1	37%		+0.3	+0.1	132%																	
Daily mean		16.4																						
Anom		+1.4																						

Pressure, abs highest = 1029.0 on 15
 Pressure, abs lowest = 1000.0 on 8

Number of days with:
 Air frost = 0 Ground frost = 1 Nil sun = 2
 Snow falling = 0 Snow lying = 0 Thunder = 0
 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 June 2010

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	hshs	NChs	Date	Remarks
1	50	8	13	02	07	12.5	10.6	88	7.9	1016.1	7	004	63	6	2	3	5	6	2	/	83635	88556			1	
2	61	4	34	03	09	14.6	8.7	68	6.8	1022.4	2	011	01	1	1	3	1	5	0	1	83822				2	2Ci75 Cu hum
3	70	0	05	05	11	18.4	7.0	47	6.2	1023.9	8	001	02	0	0	0	0	9	0	0					3	
4	65	1	08	03	07	20.4	11.1	55	8.1	1020.5	8	005	02	0	0	0	0	9	0	1	81080				4	
5	60	6	04	02	06	21.8	11.7	52	8.3	1018.8	8	010	05	2	2	1	8	7	0	1	81650	86080			5	1Cu58 COTRA Cu med acgen
6	61	7	26	07	11	18.5	13.8	74	9.7	1011.4	7	003	03	2	2	3	5	4	7	/	83618	87362			6	
7	80	5	24	04	10	16.1	10.5	69	7.8	1012.5	0	001	03	1	1	3	8	5	3	1	83820	83075			7	1Sc40 2Ac65 COTRA Cu med
8	30	8	17	06	10	14.3	13.6	95	9.8	1000.7	6	011	50	6	5	8	7	2	/	/	82703	87705	88710		8	
9	75	6	12	04	07	17.5	11.8	69	8.5	1003.9	2	004	03	6	2	3	2	4	6	1	83818	85365			9	1Ac62 /Ci75 COTRA Cu con
10	60	8	03	09	18	15.4	12.9	85	9.3	1007.5	1	002	05	2	2	8	6	3	/	/	87708	88710			10	
11	63	8	36	05	11	13.9	10.7	81	8.1	1009.1	0	008	01	6	2	8	5	4	/	/	87612	88615			11	
12	80	5	33	08	15	15.4	8.5	63	7.0	1014.9	1	010	01	2	2	5	8	5	0	0	82825	84635			12	Cu med
13	75	3	21	06	12	17.3	10.4	64	7.9	1017.1	7	012	01	6	1	1	1	5	8	1	81825	83362			13	1Ac60 1Ci75 Cu hum 1Ac cas
14	70	2	04	06	12	16.8	12.1	74	8.8	1016.0	2	022	01	1	1	2	1	4	0	0	82818				14	Cu hum
15	86	3	04	10	21	15.4	6.5	55	5.8	1027.9	1	011	03	0	0	3	1	6	0	1	83830				15	1Ci78 Cu hum
16	83	3	04	08	20	14.8	6.2	56	5.8	1026.7	7	006	01	1	1	2	5	6	0	2	82630				16	1Ci70 Ci flo
17	84	1	03	08	15	16.5	8.1	57	6.5	1022.9	6	003	03	0	0	1	1	5	0	1	81828				17	1Ci80 COTRA Cu fra
18	78	7	02	04	11	15.1	10.1	72	7.6	1020.9	0	001	01	2	2	6	5	4	3	2	86615	85072			18	1Ac69 COTRA
19	82	4	01	07	17	12.3	5.1	61	5.5	1017.7	6	002	03	1	1	4	8	5	0	0	83828				19	1Sc45 Cu med
20	85	7	36	06	15	12.9	3.3	52	4.9	1021.4	3	008	03	1	1	7	8	6	/	/	83835	86645			20	Cu hum
21	80	1	27	03	07	19.5	7.6	46	6.2	1023.4	2	001	01	1	1	1	0	9	4	2	81364				21	1Ci70
22	84	3	24	04	10	22.0	8.3	41	6.8	1024.0	0	001	02	0	0	1	0	9	3	1	81368	83078			22	COTRA
23	80	7	23	04	09	21.2	10.0	49	7.3	1023.0	7	004	03	1	1	1	1	6	0	1	81838	83078	86081		23	COTRA Cu hum
24	81	6	28	03	08	20.6	11.3	55	8.2	1020.0	8	009	03	2	2	1	8	6	0	1	81833	86075			24	1Sc45 COTRA Cu hum
25	82	6	36	04	08	20.2	10.0	52	7.7	1018.4	0	001	02	1	1	1	5	6	0	1	81645	86081			25	COTRA Sc cas
26	63	1	06	03	08	22.9	13.0	54	9.5	1016.6	8	006	02	0	0	1	8	6	0	0	81845				26	1Sc50 Cu fra
27	66	3	27	04	07	22.4	12.8	55	9.3	1018.4	1	004	03	0	0	1	0	9	8	2	81368	83075			27	COTRA Ac flo Halo 22° part
28	75	1	30	03	08	21.1	9.3	48	7.4	1021.4	6	001	02	0	0	0	0	9	0	1	81075				28	
29	75	4	30	03	08	20.1	16.1	78	11.4	1019.5	1	002	03	8	1	4	8	4	3	0	83815				29	1Sc30 1Cu40 1Ac62 Cu med/con
30	65	7	23	04	11	19.0	13.9	72	9.8	1019.7	0	002	01	2	2	7	8	4	3	/	81815	83820	87635		30	/Ac65 Cu fra/hum

Mean vis = 26.2 km

Mean cloud = 4.5 56%

Mean wind speed = 4.9 kn

Mean gust = 11 kn

Mean TT = 17.6 °C

Mean TdTd = 10.2 °C

Mean RH = 62.9 %

Mean r = 7.8 g/kg

Mean PPP = 1017.9 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.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for June 2010

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	Date	Remarks
1	62	8	13	02	09	13.9	10.5	80	7.8	1015.0	4	000	21	6	2	8	8	4	/	/	82815	83640	88650	1	Cu med	
2	81	2	35	01	10	19.8	7.3	44	6.1	1021.9	6	006	02	0	0	2	1	7	0	0	82850			2	Cu hum	
3	84	1	06	07	17	23.4	5.2	31	5.3	1021.2	7	010	02	0	0	1	1	7	0	0	81856			3	Cu hum	
4	80	1	19	03	11	26.7	9.1	33	6.9	1018.6	6	009	03	0	0	1	1	8	0	0	81857			4		
5	72	8	16	02	09	26.5	12.8	43	9.0	1015.9	7	013	03	2	2	1	2	7	3	7	81850	88270		5	2Ac65 Cu con U/a cont	
6	81	7	27	08	16	22.1	11.0	49	8.0	1010.4	6	008	01	2	2	1	2	6	7	2	81835	83460	86070	6	2Ac62 Cu con NW	
7	86	8	21	07	13	18.1	9.4	57	7.2	1010.0	7	015	21	6	2	2	8	6	7	/	81835	85358	88359	7	2Sc56 Cu hum	
8	80	5	21	10	19	19.1	11.8	62	8.7	1000.3	0	000	15	8	2	2	8	5	6	2	82825			8	1Sc50 2Ac62 2Ci70 Cu con jp NW&N	
9	81	6	06	02	09	19.5	12.2	62	8.6	1004.1	7	003	02	2	2	3	8	5	6	1	82828	83360		9	2Sc50 /Ci75 Cu con	
10	60	7	02	11	19	17.0	12.5	75	8.9	1007.1	6	003	60	6	2	2	8	5	2	/	82820	84640	87458	10	1Sc25	
11	75	5	21	03	06	17.0	11.3	69	8.3	1010.4	1	005	01	2	2	5	8	5	0	0	83825	83640		11	Cu med	
12	82	5	02	06	13	18.4	7.1	48	6.2	1016.7	2	008	02	2	2	5	4	6	0	0	82845	84650		12	Cu hum	
13	84	6	21	11	21	20.0	7.9	46	6.7	1012.7	7	022	02	2	2	4	8	6	3	0	83848	84360		13	2Sc56 Cu med	
14	80	7	01	09	18	17.4	10.7	65	8.0	1018.7	3	018	15	2	2	4	8	6	7	/	83830	86358		14	2Sc56 Cu con jp E&SW	
15	83	4	03	10	25	17.6	5.8	46	5.8	1027.4	8	001	02	1	1	3	4	6	0	1	83645			15	2Ci78	
16	84	1	03	09	19	19.5	5.6	40	5.7	1023.4	7	017	02	0	0	1	1	7	0	1	81850			16	1Ci80 COTRA Cu hum	
17	85	4	02	09	20	22.5	6.5	35	5.7	1020.3	6	015	03	0	0	1	1	7	0	4	81856	84078		17	COTRA Cu hum	
18	75	8	03	05	11	18.9	12.0	64	8.5	1019.3	6	007	02	2	2	8	8	5	/	/	83828	87635		18	/Sc50 Cu hum	
19	84	7	36	09	18	15.3	3.6	46	4.9	1017.5	4	000	02	2	2	6	8	6	6	/	82842	85650		19	3Ac57 Cu med	
20	82	5	36	06	14	17.2	3.9	41	4.9	1021.6	8	004	01	1	1	1	1	7	0	1	81850	85072		20	COTRA Cu hum U/a cont	
21	84	7	01	03	06	22.8	9.5	43	7.1	1022.5	7	005	02	2	2	7	8	7	/	/	82850	87656		21	Cu hum	
22	84	4	23	07	16	25.1	8.2	34	6.7	1022.6	6	006	02	0	0	1	1	7	0	1	81856	84078		22	COTRA Cu hum	
23	80	3	25	06	14	25.8	8.9	34	6.9	1020.8	7	011	01	1	1	1	1	7	0	1	81856	83075		23	COTRA Cu hum	
24	81	7	25	05	12	23.7	11.0	45	8.0	1018.5	6	007	02	1	1	2	6	8	6	0	82845	85656	85272	24	COTRA Cu med Halo 22° part	
25	80	3	05	02	10	24.4	10.7	42	7.7	1016.2	8	010	02	1	1	1	1	7	0	1	81850	83081		25	COTRA Cu hum	
26	70	2	22	07	15	27.7	9.2	31	7.1	1015.3	7	007	02	1	1	2	2	7	6	1	82850			26	1Ac57 1Ci81 COTRA Cu med	
27	80	6	26	06	15	27.7	9.6	32	7.3	1017.5	7	004	02	2	2	1	1	7	0	1	81856	83075	85080	27	COTRA Cu hum	
28	75	5	24	06	14	27.2	6.8	27	5.9	1019.6	7	012	02	1	1	1	1	8	0	1	81857	85080		28	1Ci75 COTRA Cu hum	
29	84	6	24	06	14	26.3	11.1	39	8.2	1018.3	7	010	02	1	1	2	2	7	0	5	82850	86078		29	1Cs75 COTRA Cu med	
30	81	7	19	07	15	23.7	10.3	43	7.7	1017.4	8	014	02	2	2	2	4	7	3	8	81850	83275	87078	30	2Sc50 1Ac68 COTRA Cu hum	

Mean vis = 36.1 km

Mean cloud = 5.2 65%

Mean wind speed = 6.2 kn

Mean gust = 14 kn

Mean TT = 21.5 °C

Mean Td = 9.1 °C

Mean RH = 46.9 %

Mean r = 7.1 g/kg

Mean PPP = 1016.7 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

Td = 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.

June 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	12.54	14.4	1226	11.2	38	87.1	94.8	2358	75.3	1341	10.43	7.81	8.8	1130	7.3	1628	1016.79	1019.4	0	1014.3	1205	1.7
2	14.88	22.5	1623	8.2	342	72.0	98.3	509	36.3	1558	9.09	7.11	8.4	849	5.8	1559	1021.81	1023.9	2349	1019.1	29	0.0
3	15.81	24.1	1341	7.0	411	58.9	97.6	520	25.6	1620	6.21	5.88	8.3	712	4.1	1808	1022.31	1024.4	633	1020.2	1714	0.0
4	18.11	27.5	1558	6.6	346	60.8	95.4	439	29.8	1442	9.15	7.17	10.0	1217	5.6	346	1019.94	1021.2	620	1018.2	1558	0.0
5	19.71	27.5	1553	9.0	356	64.4	96.8	504	35.4	1150	11.90	8.65	10.4	1451	6.7	356	1017.21	1020.4	5	1013.7	2359	0.0
6	17.36	22.6	1318	13.4	359	74.6	92.3	201	40.6	1608	12.49	9.01	10.9	1303	6.1	1613	1011.75	1013.9	6	1010.1	1706	0.1
7	14.74	19.6	1226	11.2	342	75.1	96.6	2333	50.1	1309	10.07	7.68	8.8	805	6.3	1737	1010.81	1013.1	734	1005.9	2358	5.8
8	14.90	19.8	1550	10.8	342	82.5	97.2	136	55.7	1719	11.73	8.65	10.6	1142	7.7	257	1001.66	1006.0	0	1000.0	1209	3.9
9	15.97	20.9	1553	10.9	244	78.4	96.6	306	52.5	1553	11.95	8.74	9.9	2122	7.8	244	1004.23	1007.1	2348	1002.3	314	0.0
10	15.03	18.5	1343	13.0	2358	85.2	95.9	132	67.9	1347	12.52	9.06	9.8	1308	8.3	2211	1007.17	1008.1	905	1006.1	1615	0.0
11	14.57	19.8	1706	10.7	2338	77.9	92.6	2157	47.6	1707	10.53	7.92	9.4	1442	6.6	1700	1009.53	1012.8	2351	1006.1	142	0.0
12	14.42	20.1	1624	8.1	308	66.4	93.7	349	38.5	1734	7.82	6.56	7.9	1156	5.2	1735	1015.87	1019.4	2353	1012.4	36	0.0
13	15.23	21.5	1233	9.5	121	69.9	96.5	2358	38.4	1637	9.10	7.18	8.7	2201	5.4	1747	1014.75	1019.4	30	1010.3	1901	4.8
14	14.76	20.2	1205	9.6	2359	76.5	97.1	54	49.3	1201	10.40	7.82	9.8	750	6.0	2353	1017.56	1025.8	2359	1011.1	1	0.0
15	12.74	18.8	1436	7.0	259	64.9	94.6	306	39.9	1418	5.75	5.64	7.2	954	4.8	1858	1027.40	1029.0	2308	1025.6	0	0.0
16	13.56	20.6	1509	7.4	217	63.5	90.7	421	36.8	1512	6.16	5.80	8.1	1348	5.0	5	1025.26	1028.5	0	1022.0	1815	0.0
17	15.31	23.0	1438	5.9	322	64.9	95.6	436	32.5	1553	7.92	6.58	8.7	1022	5.3	1416	1021.94	1024.0	1	1019.7	1652	0.0
18	14.28	21.3	1241	9.0	118	79.6	94.5	2359	52.8	1242	10.60	7.88	9.8	1215	6.5	118	1020.07	1021.7	16	1018.8	1842	1.7
19	11.33	15.7	1223	5.8	410	66.2	97.3	438	39.7	1224	4.68	5.30	7.5	5	4.3	1224	1018.12	1019.6	2234	1016.9	1252	0.0
20	12.83	18.6	1539	6.8	216	59.2	81.7	2242	37.4	1617	4.61	5.25	7.0	2353	4.4	902	1021.42	1023.4	2355	1019.1	9	0.0
21	18.25	24.6	1732	10.1	425	56.9	89.8	449	33.9	1711	8.95	7.04	8.8	1845	5.9	1059	1022.89	1023.8	2343	1021.6	1739	0.0
22	19.60	25.8	1411	11.0	425	52.5	89.9	432	28.7	1805	8.56	6.87	8.9	823	5.0	912	1023.24	1024.3	746	1021.8	1751	0.0
23	19.39	26.1	1502	9.9	346	56.0	92.3	353	32.9	1530	9.64	7.37	9.0	749	6.4	1104	1021.77	1023.5	634	1019.5	1824	0.0
24	19.04	25.0	1521	10.7	343	59.7	88.7	438	37.5	1224	10.56	7.87	9.8	834	6.3	150	1019.36	1020.9	547	1017.7	1817	0.0
25	19.70	26.6	1641	11.0	409	58.4	94.1	442	32.5	1541	10.47	7.83	9.4	1152	6.7	1814	1017.13	1018.9	0	1015.0	1804	0.0
26	20.88	28.5	1416	12.7	433	60.8	96.2	506	30.6	1459	12.02	8.69	10.9	937	6.9	1508	1016.41	1017.8	2336	1014.9	1647	0.0
27	20.79	28.8	1432	9.7	428	57.7	96.7	519	23.7	1434	10.82	8.02	10.1	949	5.6	1434	1018.10	1020.6	2358	1016.8	1714	0.0
28	20.64	27.7	1503	11.5	421	50.6	93.5	430	23.6	1441	8.59	6.93	8.7	606	4.9	1058	1020.42	1021.8	626	1018.6	1737	0.0
29	20.50	27.3	1446	14.7	624	62.3	89.4	727	32.7	1429	12.64	9.11	12.2	912	6.7	449	1019.15	1020.2	2324	1017.9	1647	0.6
30	19.14	25.6	1448	14.1	347	66.9	92.6	117	36.9	1330	12.22	8.80	10.7	812	7.0	1330	1018.33	1020.1	107	1016.3	2238	0.0

Total	Mean	Max	Min	9.88	67.0	93.97	87.1	98.30	50.6	81.70	39.84	75.30	23.63	9.59	7.47	9.28	6.02	1017.41	1019.77	1015.08	1025.64	999.97	18.6					
	16.53	22.76	11.33	14.41	14.70	28.84	14.41	28.84	5.79	67.0	93.97	87.1	98.30	50.6	81.70	39.84	75.30	23.63	9.59	7.47	9.28	6.02	1017.41	1019.77	1015.08	1025.64	999.97	18.6

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

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 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.