

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 2011

Temperature (°C / °F)			Anomaly	Rank in the past years			
Mean maximum	20.1	68.2	-0.4	61 st lowest			
Mean minimum	9.6	49.3	-0.9	51 st lowest			
Daily mean	14.8	58.6	-0.7	54 th lowest			
Highest maximum	28.6	83.5	on 27 th	Lowest maximum	15.2	59.4	on 17 th
Highest minimum	15.3	59.5	on 27 th	Lowest minimum	4.0	39.2	on 12 th
Mean grass minimum	6.8	44.2	-0.8	Lowest grass minimum	-0.9	30.4	on 1 st
Mean earth @30 cm	16.3	61.3	-0.5	Earth @100 cm	14.8	58.6	
Frost duration (hrs)	0.0			Rain duration (hrs)	57.5		
Rainfall total (mm / in)	76.2	3.00	155 %	21 st highest			
Highest daily fall	16.8	0.66	on 5 th				
Number of: Dry days (<0.2mm)	16	Wet days (>0.9mm)	13	days ≥5mm	6		
Sunshine total (hrs) 177.8	Daily mean 5.93	92 %	Sunniest day 15.1		on 3 rd		
N ^o days with: Air frost 0	Ground frost 1	Snow falling 0	Snow lying 0				
Thunder 1	Hail ≥5mm 0	Small hail/ice 0	Fog @09 0	Nil sun 1			
Pressure MSL : Mean @09 GMT, mbar 1015.7	-1.4	Highest 1034.5	on 2 nd	Lowest 996.0	on 17 th		
Relative humidity : Mean (%) 73.9	Lowest 28	on 11 th	Water vapour (g/kg), mean at 09 and 15 GMT 7.6		7.6		
Overall mean wind speed (mph) 6.8	Windiest day 10.7	on 18 th	Max gust 32	on 21 st			
Wind direction (days) N 2	NE 3	E 0	SE 0	S 6	SW 14	W 4	NW 1
Least windy day (mph) 3.8	on 6 th	Calm; less than 0.5 mph (minutes) 244					

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

Notes: **Dull and Wet with Below Normal Temperature**

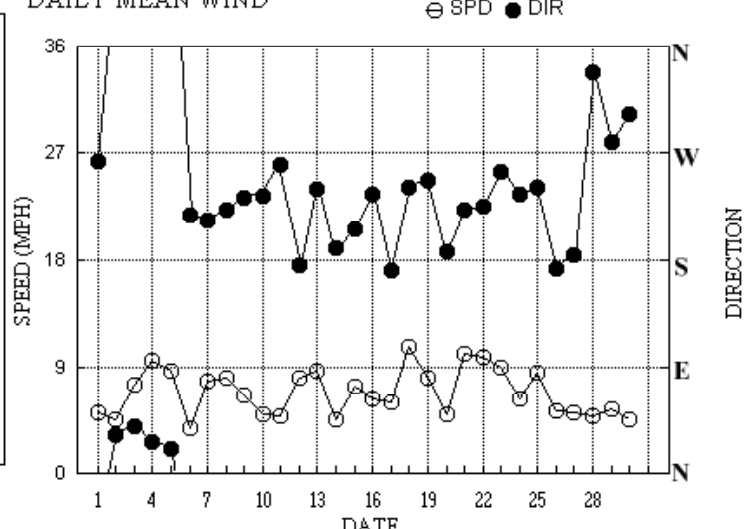
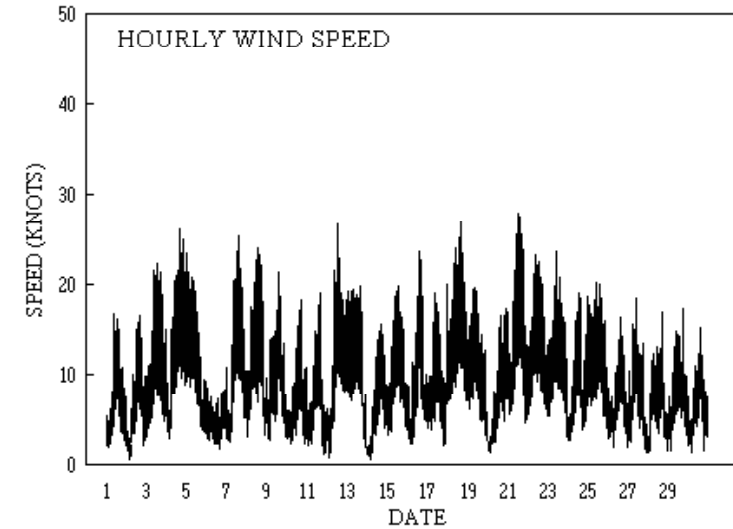
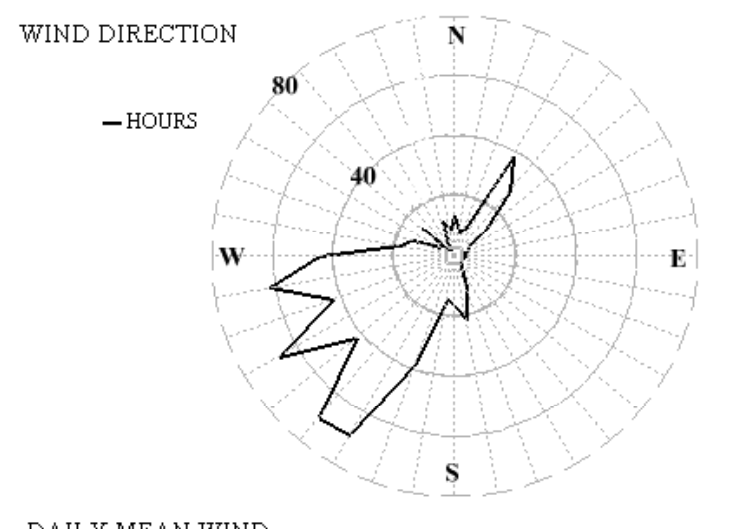
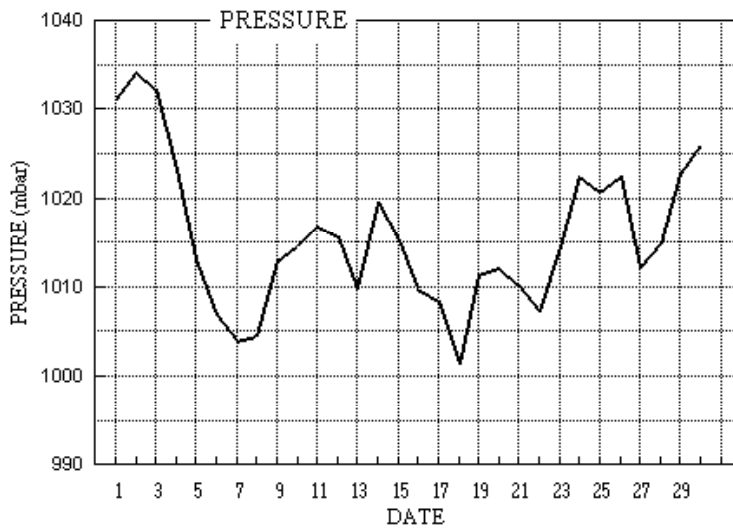
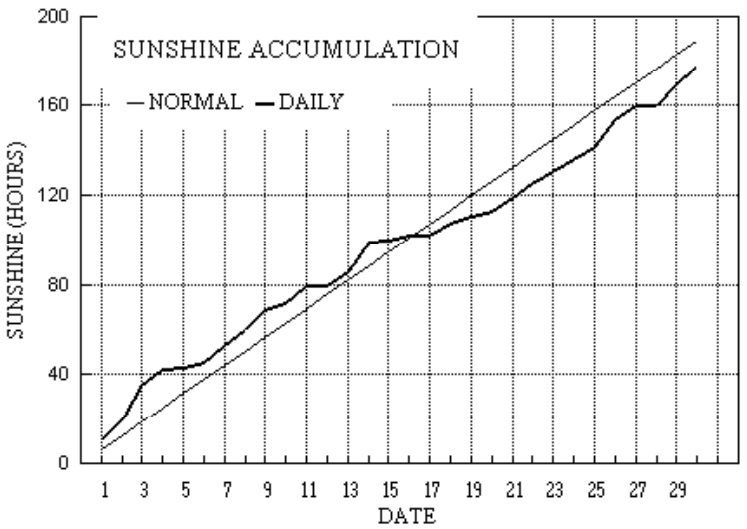
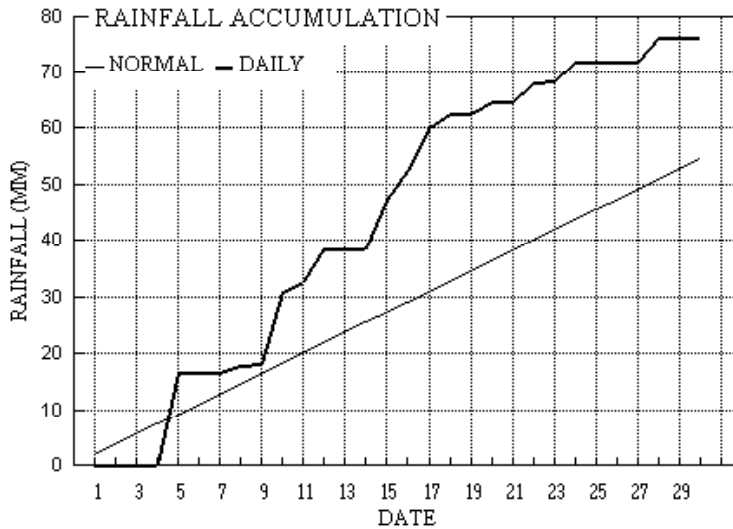
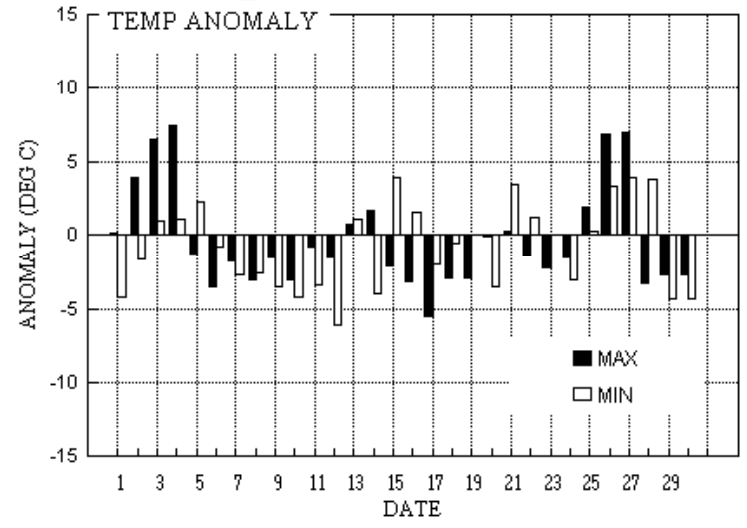
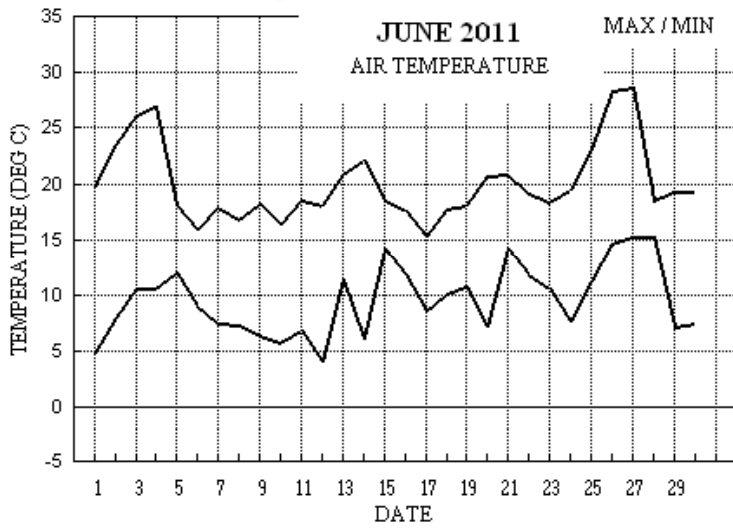
Temperature: In terms of the mean temperature, this June is equal coolest with 1999 since 1990. For most of the month both the daily max and min temperatures were near or below normal, and there were just two short periods, from the 2nd to the 4th, and the 26th to 27th, when the daily max was significantly above normal. The highest max is 1.6° above the long-term median, while the lowest max is 0.4° above its median. The highest min is 0.5° above the median but the lowest min is 0.7° below its median. The lowest grass min is over 1° below average, and the slight ground frost on that day brings this June into the company of 13 others in the past 32 years to have had one. Earth temperature at 30 cm depth is lowest since 1995, but near normal at 1 m depth. **Rainfall:** Over one and a half times the average rain fell this June, making it wettest since 2007, and before that 1999. While few people, I suspect, will welcome abundant summer rain, it was particularly needed this year following the very dry spring season. There were 3 more days with over 5 mm than average, and the number of dry days is also 3 fewer than average. A 5 day dry spell ended on the 4th. Rainfall duration is 28.6 hours above normal, and highest since 1998. Thunder occurred on just one day, the 28th, and there was no hail. The highest rainfall rate was 55 mm/hr on the 18th. **Sunshine:** This month's sunshine is in the dull category, and the total is less than in either of the preceding two months, and is lowest for June since 2007. The period 15th to the 20th was particularly dull, managing a total of just 13.9 hours, compared with 15.1 hours on the 3rd alone. Overall there were 9 days with <3 hours, 15 with =>6 hours, 6 with =>9 hours and 3 with =>12 hours. **Commentary: From the 1st to the 15th:** Apart from the 2nd to the 4th, when anomalies for daily max were between +4.0° and +7.4°, anomalies ranged from +1.7° on the 14th to -3.5° on the 6th, and were negative on all but 3 days. For daily min anomalies ranged from +3.9° on the 15th to -6.1° on the 12th, again mostly negative except on 5 nights. After a dry start, the 5th was the month's wettest day, and together with the 10th gave a total of 29.6 mm, and there were 4 further wet days up to the 15th. Sunshine was good up to the 4th, then generally near or a little below normal. Light W'ly winds on the 1st became NE'ly on the 2nd, increasing fresh on the 4th, then light or moderate up to the 15th, backing SW'ly on the 6th. **From the 16th to the 30th:** Apart from the 26th and 27th, when anomalies for daily max were around +7.0°, 11 of the 13 remaining days were below normal, with anomalies between 0° on the 20th and -5.5° on the 17th. By night anomalies for min ranged from +3.9° on the 27th to -4.3° on the 30th. Rainfall was plentiful, yet there were 8 dry days, and the daily totals were generally less than in the previous period. Sunshine was poor until the 20th, then mainly about normal. Moderate SW'ly winds on the 16th increased fresh on the 18th and again on the 21st, becoming light S'ly on the 26th, veering NW'ly on the 28th.

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			
+0.4°	-1.0°	189%	112%	-1.6°	-1.3°	206%	64%	+0.2°	+0.4°	69%	101%

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

Wokingham Climatological Graphs for June 2011



Month: JUNE 2011

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf SI	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff	Rain HH hrs									
1	19.7	4.9	0.0	-0.9	14.5	13.8	10.9	0.0	1031.0	0	1	0	0	0	0	264	3.9	4.4	192	17	1047	264	8	14	0.0	
2	23.5	8.0	0.0	3.5	15.1	13.8	9.4	0.0	1034.1	0	0	0	0	0	0	32	3.2	3.9	30	17	1653	31	7	15	0.0	
3	26.1	10.6	0.0	6.3	15.5	13.9	15.1	0.0	1032.3	0	0	0	0	0	0	40	6.4	6.4	29	22	1414	33	9	12	0.0	
4	26.9	10.6	0.0	7.5	16.2	14.0	7.5	0.0	1023.3	0	0	0	0	0	0	27	8.2	8.3	27	26	1647	24	13	16	0.0	
5	18.1	12.0	16.8	12.0	16.6	14.2	0.3	0.0	1013.1	0	0	0	0	0	0	21	7.4	7.5	32	24	0149	25	10	01	15.6	
6	15.9	9.1	0.0	9.5	16.0	14.4	2.6	0.0	1006.9	0	0	0	0	0	0	218	0.4	3.3	195	11	2348	201	5	23	0.0	
7	17.9	7.4	tr	2.4	15.6	14.5	8.0	0.0	1004.0	0	0	0	0	0	0	213	6.7	6.8	232	26	1453	212	11	12	0.0	
8	16.8	7.3	1.2	3.2	15.4	14.5	6.7	0.0	1004.6	0	0	0	0	0	0	223	6.6	6.9	209	24	1356	256	11	16	0.6	
9	18.2	6.4	0.2	2.4	15.3	14.5	8.2	0.0	1012.8	0	0	0	0	0	0	233	5.4	5.7	214	22	1439	212	10	14	0.1	
10	16.4	5.8	12.8	1.8	15.3	14.5	3.1	0.0	1014.7	0	0	0	0	0	0	234	3.8	4.3	269	18	1704	222	8	16	4.6	
11	18.5	6.9	1.6	5.6	15.2	14.5	7.8	0.0	1016.8	0	0	0	0	0	0	261	3.7	4.2	308	19	1610	275	8	15	2.0	
12	18.0	4.0	6.1	0.5	15.5	14.5	0.6	0.0	1015.7	0	0	0	0	0	0	176	6.4	6.9	152	27	1342	165	12	13	8.5	
13	20.8	11.4	tr	13.3	15.2	14.5	5.6	0.0	1009.7	0	0	0	0	0	0	240	6.8	7.5	259	20	1620	270	10	16	0.0	
14	22.1	6.1	0.0	2.0	15.8	14.5	13.1	0.0	1019.6	0	0	0	0	0	0	190	3.1	4.0	214	16	1647	190	7	16	0.0	
15	18.6	14.2	8.4	13.0	16.7	14.6	1.0	0.0	1015.2	0	0	0	0	0	0	206	6.4	6.4	217	20	1332	199	9	14	2.3	
16	17.6	11.8	5.2	10.8	16.4	14.7	2.0	0.0	1009.7	0	0	0	0	0	0	235	5.0	5.5	239	24	1422	239	12	14	1.7	
17	15.2	8.6	7.7	5.5	16.1	14.8	0.1	0.0	1008.4	0	0	0	0	0	0	171	3.7	5.2	207	19	0959	162	7	12	8.7	
18	17.8	10.1	2.6	8.3	15.7	14.9	5.7	0.0	1001.4	0	0	0	0	0	0	242	9.2	9.3	252	27	1730	260	12	17	0.9	
19	18.0	10.7	tr	8.2	16.2	14.9	2.7	0.0	1011.4	0	0	0	0	0	0	247	6.6	6.9	274	20	1032	262	9	10	0.0	
20	20.7	7.2	2.2	2.5	16.1	14.9	2.4	0.0	1012.2	0	0	0	0	0	0	187	2.4	4.4	207	17	2232	206	8	15	3.6	
21	20.8	14.1	tr	13.5	16.7	14.9	6.8	0.0	1010.2	0	0	0	0	0	0	222	8.7	8.8	203	28	1411	213	14	15	0.0	
22	19.1	11.9	3.5	9.8	16.7	15.1	5.9	0.0	1007.2	0	0	0	0	0	0	226	8.2	8.5	196	23	1000	222	11	08	1.7	
23	18.4	10.6	0.1	9.0	16.5	15.2	5.1	0.0	1014.5	0	0	0	0	0	0	254	7.4	7.7	293	24	1105	258	10	08	0.1	
24	19.4	7.7	3.5	3.7	16.4	15.2	6.0	0.0	1022.5	0	0	0	0	0	0	236	5.0	5.4	209	19	1412	233	9	15	5.6	
25	23.1	11.2	tr	11.2	16.7	15.3	4.7	0.0	1020.7	0	0	0	0	0	0	242	6.8	7.4	271	20	1137	262	10	14	0.0	
26	28.3	14.7	0.0	11.3	17.2	15.4	12.4	0.0	1022.5	0	0	0	0	0	0	172	3.6	4.5	141	17	1649	168	8	17	0.0	
27	28.6	15.3	tr	12.2	18.5	15.5	6.1	0.0	1012.2	0	0	0	0	0	0	184	3.1	4.4	204	19	1102	197	9	10	0.0	
28	18.5	15.3	4.3	12.3	19.1	15.7	0.0	0.0	1014.9	0	0	0	1	0	0	338	3.9	4.2	325	17	1823	340	7	07	1.5	
29	19.3	7.1	tr	2.3	18.0	16.0	9.3	0.0	1022.6	0	0	0	0	0	0	280	4.5	4.7	297	18	1805	289	7	11	0.0	
30	19.3	7.5	tr	2.4	17.6	16.1	8.7	0.0	1025.9	0	0	0	0	0	0	303	3.4	4.0	349	15	1615	324	8	16	0.0	
Total			76.2				177.8	0.0																		57.5
Mean	20.1	9.6		6.8	16.3	14.8	5.93	0.0	1015.7							236	3.0	5.9								
Anom	-0.4	-0.9	155%		-0.5	+0.2	92%																			-1.4
Daily mean		14.8																								
Anom		-0.7																								

Number of days with:

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

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT
 Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).
 Grass min = Lowest overnight temperature at grass tip level.
 Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.
 pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.
 Af = Air frost. Gf = Ground frost. Sf = Snow falling. SI = Snow lying at 09 GMT.
 Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.
 Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.
 Sp = 24 hour mean wind speed in knots.
 Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.
 High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.
 30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.
 Anom = Departure from 1981-2010 climatological average.
 All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for June 2011

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NChs	NChshs	NChshs	Date	Remarks
1	82	6	25	04	10	15.3	5.4	52	5.4	1031.0	8	001	03	2	2	1	1	6	3	1	81833	86078	1	1Ac60 COTRA Cu hum Halo 22 part	
2	80	2	02	06	10	19.5	12.2	63	8.3	1034.1	0	002	03	0	0	1	1	5	0	1	81828		2	2Ci80 COTRA Cu hum	
3	70	3	05	06	17	20.0	11.9	60	8.5	1032.3	8	008	03	0	0	1	1	5	0	1	81828	83080	3	COTRA Cu hum	
4	72	5	02	09	16	18.2	12.1	68	8.7	1023.3	8	011	01	2	2	1	6	4	8	0	81715	85362	4	1Ac59 Ac cas	
5	70	7	03	10	19	15.7	9.2	65	7.3	1013.1	7	016	01	2	2	2	5	5	8	/	82622	83360	5	4As63 3Ac65 Ac cas	
6	75	8	01	04	07	9.9	8.2	89	6.9	1006.9	2	006	60	6	2	8	5	4	/	/	81710	88630	6		
7	86	2	20	06	15	14.5	7.1	61	6.3	1004.0	7	003	03	0	0	2	1	5	4	2	82825		7	1Ac60 1Ci72 Cu hum	
8	82	7	21	08	17	14.2	7.5	64	6.5	1004.6	3	004	15	1	1	7	8	5	/	/	82825	87650	8	Cu med jpNW	
9	84	6	26	06	14	14.3	7.1	61	6.3	1012.8	2	008	15	1	1	6	8	5	0	0	84825	83656	9	Cu med/con jpW	
10	82	7	24	04	09	12.3	4.9	60	5.3	1014.7	7	005	15	2	2	3	8	5	7	/	83825	83357	87459	10	1Sc40 Cu med jpS
11	70	4	23	04	10	12.5	7.6	72	6.4	1016.8	1	008	03	1	1	3	2	4	0	1	83818		11	2Ci75 Cu med	
12	63	8	13	05	11	11.4	9.8	90	7.5	1015.7	8	010	61	6	2	6	5	4	2	/	81712	85645	88556	12	2Sc35
13	82	7	23	09	18	17.1	13.4	78	9.4	1009.7	1	013	01	2	2	7	5	4	/	/	87612	84630		13	
14	81	7	10	03	08	16.7	8.7	59	6.9	1019.6	0	001	03	2	2	1	1	6	0	1	81830	87078		14	COTRA Cu hum Halo 22
15	81	8	22	09	17	17.1	11.9	72	8.5	1015.2	6	003	03	2	2	7	5	5	7	7	86622	83640	88272	15	/Ac59
16	59	8	28	04	08	12.8	10.8	88	8.1	1009.7	3	003	60	6	2	7	8	2	2	/	83705	87640	88458	16	1Cu10 Cu med
17	73	8	16	06	14	13.9	10.6	80	8.0	1008.4	8	018	03	2	2	2	2	4	2	/	82815	88460		17	Cu med
18	70	5	24	10	18	14.9	8.3	65	6.9	1001.4	2	005	15	1	1	4	9	5	7	0	81925	83825		18	1Sc56 2Ac58 1Ac65 jp all quads vv50k ex p
19	83	6	26	10	19	15.8	8.7	63	7.0	1011.4	2	017	03	2	2	4	2	5	3	1	84825	83358		19	2Ci78 Cu med
20	80	7	03	03	08	15.5	9.1	65	7.3	1012.2	3	003	02	2	2	7	8	5	/	/	81822	83625	87635	20	Cu hum
21	70	7	24	09	21	17.1	11.7	70	8.6	1010.2	2	008	25	8	2	7	8	5	/	/	83822	87640		21	/Ci75 Cu med
22	80	7	22	10	22	16.3	9.2	63	7.2	1007.2	6	008	03	2	2	7	8	5	/	/	85825	86645		22	/Ac58 /Ci70
23	84	5	26	09	19	16.1	8.9	62	6.9	1014.5	2	009	03	1	1	3	8	6	3	0	83830			23	1Sc50 2Ac58 Cu med
24	84	5	25	05	12	16.6	8.0	57	6.5	1022.5	8	001	03	1	1	3	2	6	0	1	83830	83078		24	COTRA Cu med
25	75	8	24	07	17	17.0	15.0	88	10.4	1020.7	1	013	20	5	2	8	5	4	/	/	83710	87613	88618	25	
26	81	1	09	01	06	20.1	15.4	74	10.5	1022.5	8	003	01	1	1	1	6	4	8	1	81712			26	1Ac65 1Ci81 COTRA Ac flo
27	84	2	16	06	15	26.1	16.4	55	11.6	1012.2	5	007	02	0	0	0	0	9	0	1	82081			27	COTRA
28	67	8	01	04	12	16.7	13.2	80	9.4	1014.9	0	003	02	2	2	8	6	4	/	/	88712			28	
29	84	1	30	04	11	16.9	7.2	53	6.5	1022.6	1	005	03	0	0	1	2	6	0	0	81835			29	Cu hum (med NW)
30	84	2	29	04	09	16.0	6.6	54	6.0	1025.9	0	002	03	0	0	1	1	6	8	0	81832			30	2Ac65 Cu hum Ac cas vir

Mean vis = 33.1 km

Mean cloud = 5.6 70%

Mean wind speed = 6.2 kn

Mean gust = 14 kn

Mean TT = 16.0 °C

Mean TdTd = 9.9 °C

Mean RH = 67.7 %

Mean r = 7.6 g/kg

Mean PPP = 1015.7 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

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 2011

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	82	7	27	07	16	17.2	7.7	54	6.3	1030.4	3	001	02	2	2	5	8	6	0	2	81835	85635	87078			1	COTRA Cu hum	
2	75	6	02	09	14	22.5	11.3	49	8.0	1032.9	6	006	01	2	2	6	5	6	0	0	86645					2		
3	82	1	04	09	22	25.4	10.9	40	7.6	1028.3	6	020	02	0	0	1	1	7	0	1	81856					3	1Ci80 Cu hum	
4	81	7	02	12	22	24.5	12.3	46	8.6	1018.7	7	022	03	2	2	6	8	7	3	/	82850	85656				4	3Ac62 Cu hum	
5	68	8	03	07	15	17.1	10.5	65	7.8	1009.5	6	018	21	6	2	1	1	6	7	/	81830	86359	88462			5	1Ac57 Cu hum	
6	72	8	33	02	06	13.1	7.5	69	6.5	1006.4	6	003	02	2	2	8	5	6	/	/	88640					6		
7	75	4	22	12	28	17.6	6.5	48	6.2	1002.8	6	008	15	8	1	3	2	6	6	1	83845					7	1Ac57 1Ci75 Cu med jpNW	
8	75	6	21	06	14	14.3	9.5	73	7.3	1005.8	2	003	25	8	2	5	8	5	6	/	81820	84825				8	2Sc50 2Ac60 Cu con vv60k ex p jp W,E,S	
9	84	7	22	12	22	17.4	6.6	49	6.1	1013.6	3	001	15	1	1	3	2	6	6	1	83842	86358				9	/Ci75 Cu med jpW	
10	80	5	26	03	12	15.5	2.3	41	4.4	1013.6	6	004	15	8	2	2	8	6	6	3	82845	83358				10	1Sc56 2Ci70 Cu con jpSE,SW&W vv60k exSE&W	
11	86	5	23	08	16	18.4	1.5	32	4.2	1015.8	6	008	15	1	1	4	2	7	6	0	84856					11	2Ac59 Cu med jpNW&N	
12	40	8	16	11	22	11.8	10.4	91	7.9	1010.4	7	030	65	6	6	7	5	3	2	/	83708	87612	88525			12		
13	84	6	27	08	19	20.0	10.4	54	7.6	1012.4	2	015	03	1	1	2	1	6	0	4	82835	85078				13	1Cc75 Cu hum U/a cont	
14	82	7	23	06	13	21.6	9.2	45	7.0	1017.7	7	010	02	2	2	1	1	7	0	1	81850	87078				14	Cu hum COTRA	
15	62	8	21	10	18	16.6	14.0	84	9.9	1013.8	6	009	50	5	2	8	5	4	/	/	83710	87713	88620			15		
16	80	6	23	09	24	15.2	7.8	61	6.4	1011.1	3	008	25	8	2	2	9	6	6	3	81930	86360				16	1Cu40 2Sc50 2Ci70 jpSE,S&SW vv50k ex p	
17	70	8	15	07	17	14.3	10.6	78	8.0	1002.1	8	036	60	6	2	7	8	4	7	/	82815	86645	88460			17	3Ac58	
18	65	5	23	13	26	16.4	9.5	64	7.4	1002.0	4	000	25	8	1	1	9	5	6	3	81920	81828	83072			18	2Ac59 jp all quads vv60k ex p	
19	84	7	26	06	17	16.4	7.2	55	6.3	1013.4	3	008	02	8	2	4	8	6	3	/	82835	83650	86357			19	Cu med	
20	86	7	19	05	11	19.7	11.0	57	8.3	1010.6	7	010	25	8	2	3	8	6	7	/	83835	87360				20	1Sc50 Cu med	
21	75	5	21	13	28	20.0	11.7	59	8.9	1009.9	7	009	02	2	2	4	2	6	0	1	84832	83072				21	COTRA Cu med	
22	80	6	23	10	23	17.2	12.5	74	9.0	1008.3	1	006	25	8	6	2	8	4	7	/	81815	84357				22	2Sc45 Cu fra/med jpS vv50k ex S	
23	82	5	26	08	20	18.2	8.3	52	6.5	1016.5	0	003	15	8	1	1	8	6	6	3	81840	84358				23	1Sc56 1Ci70 Cu con jpW,NW,NE,S	
24	84	8	24	09	18	17.8	7.3	50	6.4	1022.5	3	001	03	2	2	5	8	6	0	7	82845	84656	88268			24	Cu med	
25	84	6	26	10	20	22.4	14.9	62	10.5	1021.3	4	000	01	2	2	6	8	5	0	2	81825	86628				25	1Ci75 Cu hum	
26	88	1	20	07	14	28.1	14.4	43	9.9	1019.0	7	017	02	0	0	1	1	7	0	0	81850					26	Cu hum	
27	80	7	24	05	13	26.1	15.0	50	10.4	1012.8	1	011	21	6	2	7	0	9	8	8	82362	87365	86280			27	Ac cas jp NE,E,S	
28	59	8	33	05	11	17.6	15.3	86	10.8	1015.5	7	001	21	9	6	8	8	4	/	/	81712	84815	88625			28	Cu hum	
29	83	7	32	08	15	17.6	6.4	48	5.9	1023.3	2	005	02	2	2	3	8	6	6	/	81845	83656	86359			29	Cu med	
30	80	6	32	05	11	18.5	7.3	48	6.4	1025.1	6	004	25	8	2	2	2	6	6	1	82845	85359				30	2Sc57 2Ac65 /Ci80 jpSE vv50k exSE	

Mean vis = 34.3 km

Mean cloud = 6.2 77%

Mean wind speed = 8.1 kn

Mean gust = 18 kn

Mean TT = 18.6 °C

Mean TdTd = 9.7 °C

Mean RH = 57.6 %

Mean r = 7.6 g/kg

Mean PPP = 1014.9 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	Hour	01-Jun	02-Jun	03-Jun	04-Jun	05-Jun	06-Jun	07-Jun	08-Jun	09-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun
Sunshine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	4	0.53	0.06	0.53	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.41	0.00	0.49	0.00	0.00
	5	0.99	1.00	1.00	0.00	0.00	0.00	1.00	0.38	0.68	0.31	0.00	0.21	0.00	0.99	0.01	0.00
	6	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.96	1.00	0.47	0.25	0.00	0.00	1.00	0.78	0.00
	7	1.00	1.00	1.00	0.02	0.00	0.00	1.00	0.63	0.86	0.51	0.56	0.00	0.00	1.00	0.19	0.00
	8	1.00	1.00	1.00	0.62	0.03	0.00	0.97	0.00	0.66	0.11	0.64	0.00	0.13	1.00	0.00	0.02
	9	0.91	0.71	1.00	1.00	0.24	0.00	0.41	0.00	0.18	0.00	0.88	0.00	0.00	0.99	0.00	0.00
	10	0.87	0.17	0.89	0.94	0.00	0.00	0.08	0.19	0.28	0.00	0.90	0.00	0.05	0.74	0.00	0.01
	11	0.84	0.00	0.87	0.58	0.00	0.00	0.19	0.09	0.19	0.00	0.96	0.00	0.40	0.75	0.00	0.18
	12	0.69	0.00	0.83	0.36	0.00	0.00	0.36	0.61	0.65	0.05	0.86	0.00	0.23	0.84	0.00	0.42
	13	0.58	0.01	0.99	0.26	0.00	0.00	0.06	0.28	0.46	0.01	0.68	0.00	0.21	1.00	0.00	0.28
	14	0.04	0.27	0.97	0.31	0.00	0.00	0.41	0.04	0.14	0.26	0.89	0.00	0.70	1.00	0.00	0.07
	15	0.64	0.66	1.00	0.56	0.00	0.03	0.43	0.64	0.55	0.19	0.27	0.00	0.61	1.00	0.00	0.35
	16	0.47	0.88	1.00	1.00	0.00	0.52	0.28	0.33	0.93	0.10	0.07	0.00	0.81	0.55	0.00	0.11
	17	0.27	1.00	1.00	1.00	0.00	1.00	0.79	0.45	0.05	0.85	0.00	0.00	0.76	0.99	0.00	0.01
	18	0.45	0.99	1.00	0.83	0.00	0.67	0.52	0.68	0.83	0.21	0.70	0.00	1.00	0.80	0.00	0.19
	19	0.63	0.68	1.00	0.00	0.00	0.42	0.01	0.85	0.71	0.00	0.17	0.00	0.76	0.00	0.00	0.20
	20	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	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		10.91	9.44	15.15	7.49	0.27	2.63	8.02	6.66	8.18	3.09	7.81	0.62	5.65	13.15	0.98	1.98

Hour	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	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
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
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
3	0.00	0.00	0.04	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	0.07	0.00	0.00	0.00	0.00	0.00	0.01	0.47	0.00	0.00	0.44	0.00	0.45	0.44	0.16
5	0.00	0.06	0.11	0.00	0.00	0.17	0.76	1.00	0.00	0.00	0.91	0.00	1.00	1.00	0.39
6	0.00	0.14	0.30	0.00	0.00	0.37	0.02	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.44
7	0.00	0.88	0.49	0.04	0.19	0.51	0.78	1.00	0.00	0.24	1.00	0.00	1.00	1.00	0.50
8	0.00	0.55	0.41	0.42	0.02	0.38	0.72	0.93	0.00	1.00	1.00	0.00	0.99	1.00	0.49
9	0.00	0.43	0.02	0.53	0.68	0.00	0.52	0.60	0.00	1.00	1.00	0.00	0.56	0.73	0.41
10	0.00	0.19	0.00	0.86	0.24	0.00	0.62	0.34	0.00	1.00	0.42	0.00	0.49	0.03	0.31
11	0.00	0.15	0.01	0.09	0.08	0.00	0.10	0.35	0.00	1.00	0.00	0.00	0.32	0.07	0.24
12	0.00	0.81	0.00	0.25	0.20	0.00	0.07	0.27	0.02	1.00	0.07	0.00	0.37	0.00	0.30
13	0.00	0.73	0.00	0.23	0.45	0.44	0.02	0.02	0.04	1.00	0.02	0.00	0.04	0.24	0.27
14	0.00	0.50	0.00	0.01	0.64	0.41	0.35	0.06	0.63	1.00	0.01	0.00	0.21	0.07	0.30
15	0.00	0.81	0.05	0.00	0.57	0.63	0.29	0.00	0.97	1.00	0.07	0.00	0.30	0.53	0.40
16	0.00	0.38	0.04	0.00	0.73	0.25	0.60	0.00	0.91	1.00	0.00	0.00	0.99	0.92	0.43
17	0.00	0.05	0.52	0.00	1.00	0.80	0.22	0.00	0.45	1.00	0.00	0.00	0.17	0.87	0.44
18	0.00	0.02	0.72	0.00	1.00	0.96	0.00	0.00	0.49	1.00	0.16	0.00	0.42	0.27	0.46
19	0.00	0.00	0.00	0.00	1.00	0.94	0.00	0.00	0.95	1.00	0.03	0.00	0.93	0.51	0.36
20	0.00	0.00	0.00	0.00	0.03	0.04	0.00	0.00	0.20	0.19	0.00	0.00	0.06	0.01	0.02
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
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
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
Tot	0.07	5.71	2.72	2.42	6.83	5.89	5.07	6.04	4.68	12.42	6.13	0.00	9.30	8.67	178.01

June 2011	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	13.78	19.9	1259	5.1	403	67.0	95.6	344	36.7	1056	7.11	6.19	7.7	2155	4.4	1056	1030.62	1032.9	2359	1028.5	1	0.0
2	16.72	23.6	1518	8.1	406	70.2	97.0	527	44.3	1535	10.71	7.84	9.7	1432	6.3	403	1033.33	1034.5	816	1032.2	1639	0.0
3	18.53	26.2	1409	10.8	407	63.1	93.7	447	33.7	1337	10.54	7.77	9.8	1141	6.6	1711	1030.09	1033.9	224	1025.9	1753	0.0
4	17.75	26.8	1224	10.6	406	68.3	93.6	429	41.1	1224	11.29	8.25	10.8	1303	7.0	1910	1021.19	1026.5	26	1016.8	2359	0.0
5	13.72	18.0	1303	10.4	2359	80.1	96.0	2257	58.5	955	10.19	7.73	9.1	1415	6.7	959	1011.60	1017.0	0	1007.3	2359	9.2
6	11.52	15.7	1757	9.1	615	82.0	96.3	140	57.3	1702	8.37	6.87	7.6	1	6.1	1651	1006.24	1007.4	12	1005.2	1742	6.3
7	12.95	18.2	1610	7.3	435	69.3	95.8	350	40.9	1616	7.01	6.28	7.6	1146	5.1	1644	1003.84	1005.3	4	1002.3	1610	0.0
8	12.36	17.1	1617	7.0	135	73.5	92.8	150	47.1	1618	7.54	6.51	8.6	1212	5.6	1805	1006.06	1010.7	2359	1003.9	336	1.3
9	12.51	18.3	1338	6.4	237	67.7	92.8	240	36.6	1324	6.26	5.92	7.4	1159	4.5	1359	1013.15	1015.6	2339	1010.6	0	0.1
10	10.86	16.7	1508	5.8	501	73.0	96.0	530	36.1	1406	5.69	5.69	6.8	2146	4.0	1349	1014.41	1015.5	5	1013.1	1644	9.5
11	11.12	18.6	1459	6.4	2344	74.8	96.6	458	28.4	1446	5.92	5.80	7.2	825	3.5	1437	1016.50	1018.2	2144	1014.6	128	3.5
12	11.01	14.8	2356	4.2	354	91.3	97.9	453	71.4	1318	9.62	7.55	9.9	2220	5.0	354	1012.82	1018.1	8	1007.4	1951	6.7
13	16.34	21.2	1441	9.7	2358	74.9	94.7	441	49.2	1442	11.56	8.53	10.6	845	6.5	1916	1011.52	1017.8	2358	1007.3	246	0.1
14	15.46	22.1	1437	6.2	358	67.4	97.8	536	36.2	1359	8.68	6.96	8.4	1700	5.5	1145	1018.17	1020.0	735	1016.4	1744	0.0
15	15.87	18.7	1056	13.5	2316	82.2	91.5	2319	67.1	1051	12.79	9.16	10.7	1639	8.1	0	1014.16	1016.8	4	1011.5	2336	0.0
16	12.97	17.8	1401	9.5	2219	82.9	95.0	435	51.2	1235	9.92	7.62	8.9	627	5.9	1246	1011.04	1013.2	2125	1009.2	649	12.0
17	12.07	15.1	1409	8.6	225	89.6	96.8	2132	70.0	958	10.36	7.88	8.9	2210	6.4	1005	1004.68	1013.0	0	996.0	2015	6.8
18	13.56	18.0	1549	10.1	350	75.8	96.1	1	52.2	1724	9.11	7.27	8.8	1216	5.9	1742	1001.90	1006.2	2359	997.8	0	2.8
19	14.16	18.1	1025	9.5	2358	69.9	92.0	2359	47.8	1128	8.46	6.88	7.9	827	5.7	1128	1011.51	1014.3	2215	1005.9	1	0.1
20	14.39	20.6	1309	7.4	125	82.1	96.7	328	49.7	1310	11.05	8.26	10.3	1648	6.0	125	1011.25	1013.9	7	1008.7	2221	1.9
21	16.27	21.0	1412	11.8	2346	71.4	93.2	205	43.3	1715	10.73	8.09	9.9	730	5.9	1732	1009.96	1011.1	2135	1008.7	15	0.2
22	14.89	19.1	1713	11.3	2356	75.5	92.4	1255	51.4	1719	10.47	7.91	10.2	1348	6.6	1921	1009.03	1012.6	2328	1006.9	844	3.3
23	14.25	18.6	1515	10.6	412	68.1	90.7	416	42.4	1711	8.13	6.71	8.4	719	5.1	1718	1015.90	1020.9	2359	1012.2	47	0.1
24	13.54	19.3	1214	7.8	343	72.4	93.6	2359	36.5	1215	8.09	6.67	8.4	1851	4.8	1134	1022.47	1023.7	2040	1020.7	2	3.3
25	17.29	23.4	1640	11.2	1	82.0	95.1	443	58.3	1523	14.01	9.86	11.9	1404	7.6	12	1021.19	1023.8	2305	1019.1	601	0.2
26	21.50	28.6	1534	14.8	215	67.6	93.2	518	37.5	1710	14.44	10.13	13.2	1322	8.6	1655	1020.17	1023.4	7	1015.8	2358	0.0
27	22.72	28.6	1057	15.4	349	66.8	97.1	441	38.6	1248	15.58	10.97	12.7	1002	9.0	1248	1013.13	1016.0	0	1011.8	1400	0.0
28	16.04	18.6	1014	9.9	2356	84.8	96.0	323	67.3	2036	13.45	9.60	11.3	419	6.5	2315	1015.69	1019.8	2357	1013.2	20	4.0
29	14.56	19.5	1649	7.3	418	61.7	93.9	421	37.0	1213	6.73	6.05	7.3	738	4.9	1213	1022.67	1025.4	2341	1019.7	0	0.0
30	14.49	19.6	1613	7.6	435	62.7	93.9	456	40.2	1446	6.99	6.13	7.5	848	5.1	1446	1025.50	1026.9	2352	1024.4	1725	0.0

Total	Mean	Max	Min	9.10	15.36	4.24	73.9	94.79	91.3	97.90	61.7	90.70	46.92	71.40	28.35	9.69	7.57	9.24	5.97	1015.33	1018.48	1012.43	71.4
	14.77	20.06																					
	22.72	28.61																					
	10.86	14.84																					

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

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

Average: Generally refers to the 30 year climatological average, currently 1971 to 2000. This will be next updated in 2010. For some parameters, notably wind, the climatological average is not available, and if the word average is used in the context of wind, it refers to the average for the period for which data is held, namely 1988 to present.

For sunshine, there was a change, in July 1999, in the type of instrument used to detect sunshine amount, making the climatological average based on the old instrument of little use. In general, the new instrument produces higher values in the winter half year, and lower ones in the summer half, than the old type, due to a combination of faster reaction and higher sensitivity than the old type. The average used in this case is based on a theoretical equivalent 1971 to 2000 average, drawn from comparison with the Met Office published tables of departure from climatological average sunshine in the months since 2000 for their area 'Southern England'. Users of the Wokingham Monthly Weather reports should be aware of this, and regard anomalies for sunshine published therein as a guide only, until such time has elapsed since the introduction of the new instrument that a genuine average becomes available.

Mean: The mean of the data under discussion, often the monthly mean of daily data. The mean is obtained by summation of the individual values and dividing by the number of values. The term 'daily mean' in respect of temperature is defined as '(max + min) / 2'. A true daily 24 hour (00 to 24 GMT) mean temperature is available from the Automatic Weather Station (AWS), and is currently published on page 7 of the Wokingham Monthly Weather report, on the Wokingham Weather web site, page 1. <http://www.woksat.info/wwwp1.html>

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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