

WOKINGHAM

METEOROLOGICAL

DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

Lat/Long 51°25'N 00°51'W NGR (SU)800699 Altitude 44m ASL.

Monthly Means and Totals

NOVEMBER 2004

Temperature (°C / °F)			Anomaly	Rank, in past 123 years			
Mean maximum	11.0	51.8	+0.5	30 th highest			
Mean minimum	5.3	41.5	+1.6	9 th highest			
Daily mean	8.1	46.6	+1.0	17 th highest			
Highest maximum	14.6	58.3	on 12 th	Lowest maximum	5.0	41.0	on 20 th
Highest minimum	9.7	49.5	on 23 rd	Lowest minimum	-2.2	28.0	on 14 th
Mean grass minimum	2.5	36.5		Lowest grass minimum	-7.2	19.0	on 14 th
Mean earth @30 cm	10.4	50.7	+1.4	Earth @100 cm	12.3	54.1	+0.8
Frost duration (hrs)	19.5			Rain duration (hrs)	45.4		
Rainfall total (mm / in)	31.9	1.26	52 %	16 th lowest			
Highest daily fall	5.5	0.22	on 20 th				
Number of: Dry days (<0.2mm)	14	Wet days (>0.9mm)	9	days ≥5mm	1		
Sunshine total (hrs)	57.6	Daily mean	1.92	Sunniest day	8.3	on 13 th	
N ^o days with: Air frost	3	Ground frost	9	Snow falling	1	Snow lying	0
Thunder	0	Hail ≥5mm	0	Small hail/ice	0	Fog @09	1
Air pressure MSL : Mean @09 GMT (mbar/in)		1023.3	+8.1	30.22			
Absolute highest		1037.8		30.65		on 14 th	
Absolute lowest		1001.1		29.56		on 18 th	

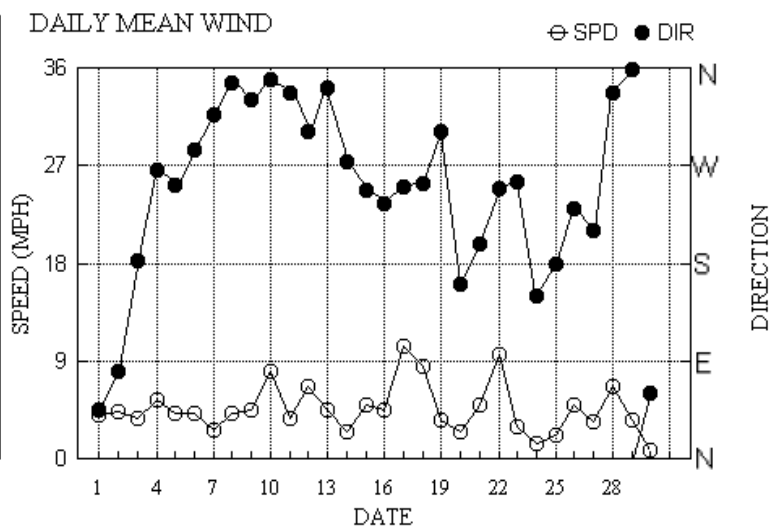
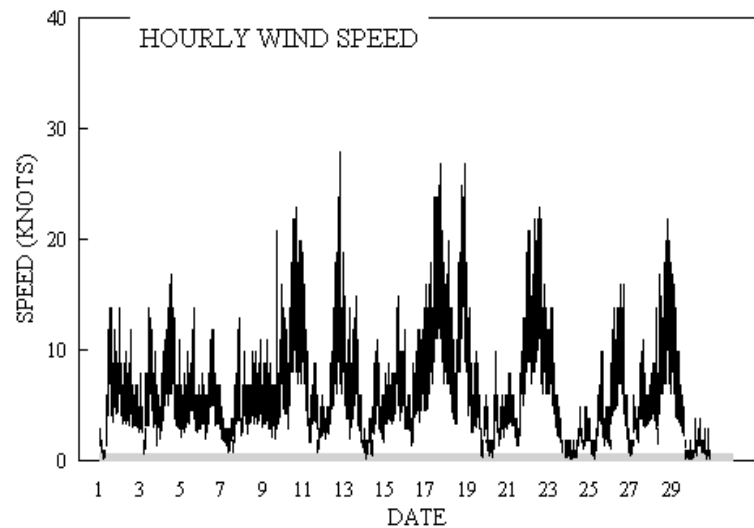
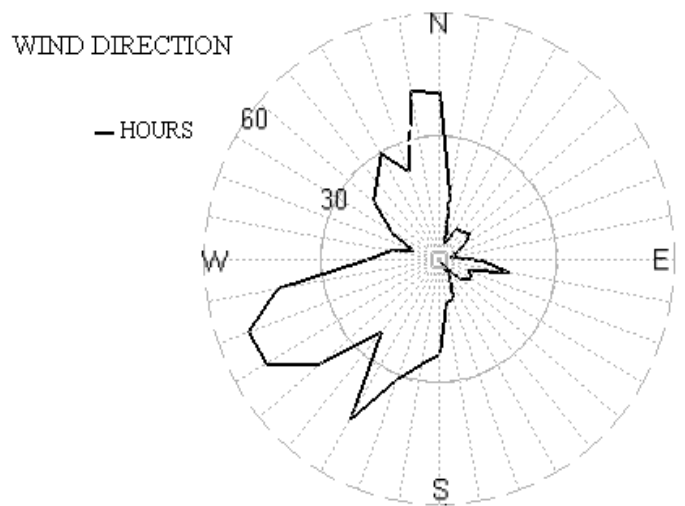
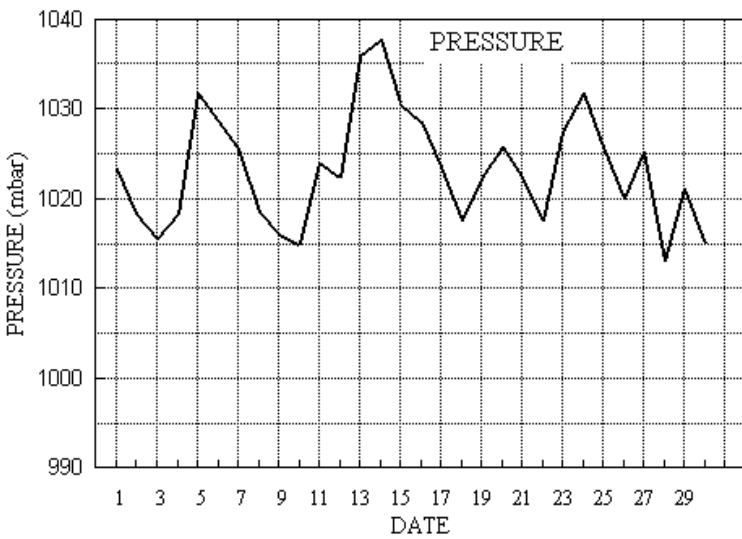
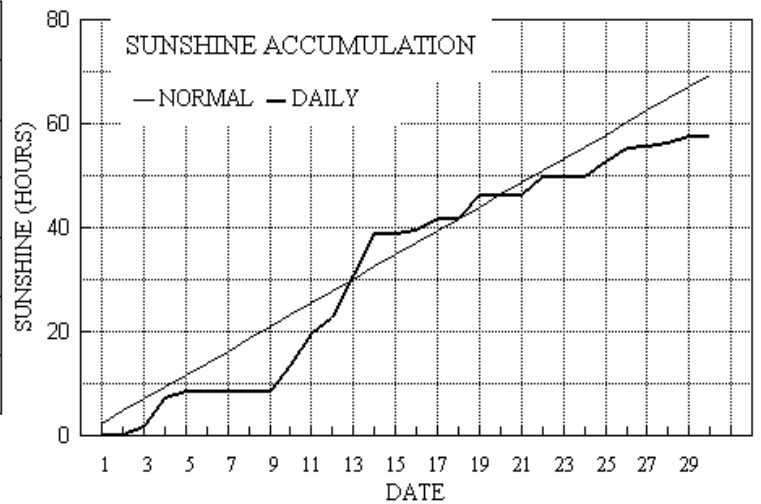
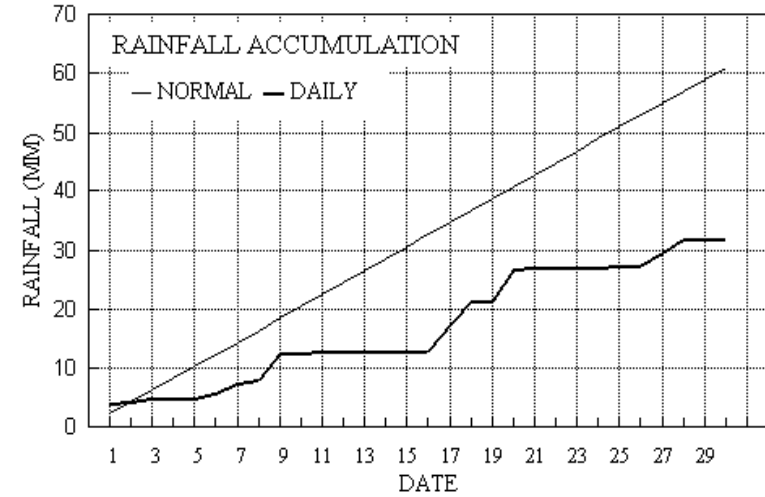
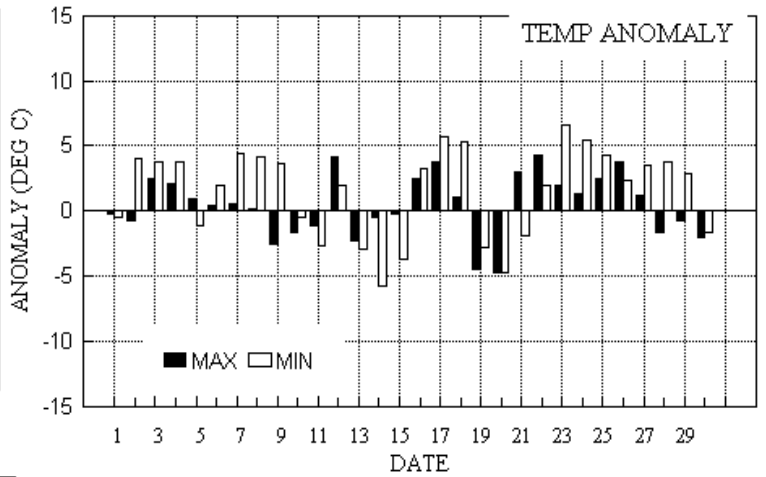
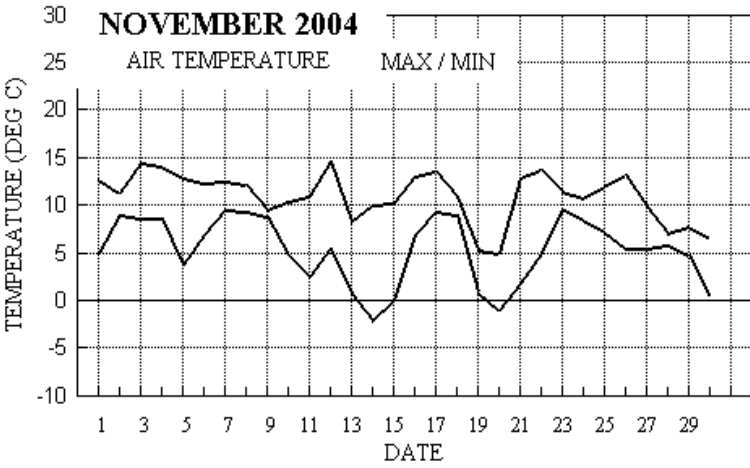
Anomaly = departure from 1971 to 2000 average.

Notes: **Mild.** **Dry.** **Sunshine Below Normal.** **Little Wind.**

Temperature. The mean temperature, lowest since 2001, is nevertheless 1.5° above the long-term median, though only 1.0° above the current 30 year climatological average. The mean minimum is 2.0° above the median, and ranks 9th highest since 1882. The highest maximum, 14.6°, is 0.9° above the median, and is lowest since 1987. The lowest minimum is 1.4° above the median, and is lowest only since 2001. The lowest maximum is 0.4° above the median, but the highest minimum is 0.7° below the median, and lowest since 1976. The highest daily mean, 11.6°, is lowest since 1987. The mean daily temperature range, 5.7°, is equal lowest with 2002 since 1994. The lowest grass minimum, -7.2°, is equal lowest with 1998 since 1997. The number of frost hours, 19.5, is 20.5 below average. The first air frost of the season was in the 14th, after a frost free period of 218 days. **Rainfall.** A predominantly dry month, with a notable absence of significant falls. The total is lowest since 1989, and ranks 16th lowest in 123 years. The highest daily fall is lowest for November since 1956, and 5th lowest in 101 years. However, the duration of rainfall is only lowest since 2001, as is the number of wet days, while the number of dry days is actually 1 fewer than average. Snow fell during the afternoon of the 20th but fell together with rain and did not lay. **Sunshine.** A dull month overall, though reasonably sunny from the 10th to the 14th. There were 12 days with nil sun, 3 more than average and most since 1994. There were 21 days with <3 hours and just 3 with >6 hours. **Wind.** A calm month overall, with a mean speed of 4.6 mph, 1.5 mph below normal, and lowest for November since 1988. The 17th was the windiest day, mean speed 10.4 mph, also lowest since 1988. The month's highest gust of 32 mph was on the 12th, and this is the lowest on record for this month. The 30th was the least windy day, mean 0.8 mph, and there were 44 hours with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,4 NE,2 E,1 SE,1 S,4 SW,4 W,8 NW,6. **Pressure.** The month's lowest pressure is highest since 1981. **Humidity.** The overall mean relative humidity was 88.0 %, and a minimum value of 47 % was reached on the 13th. The mean amount of water vapour per kg of air was 6.1 g at 0900 GMT and 6.3 g at 1500 GMT. **Commentary. From the 1st to the 10th:** Daily temperature anomalies for maxima ranged from -2.5° on the 9th to +2.5° on the 3rd, while for minima anomalies ranged from -1.2° on the 5th to +4.4° on the 7th, with 10 day mean anomalies of +0.1° and +2.3° for max and min resp. Although only 3 days were dry, the 10 day total was only 61 % of normal. 5 sunless days and 8 with <3 hours gave a 10 day mean only 56 % of normal. Mainly light winds were NE'ly on 1st, veering S'ly by 3rd and to N'ly by the 8th. **From the 11th to the 20th:** Daily maxima had anomalies ranging from -4.8° on the 20th, the month's coldest day, to +4.1° on the 12th, the month's warmest, while daily minima had -5.8° on the 14th, the month's coldest night, to +5.7° on the 17th, giving 10 day mean anomalies of -0.2° and -0.6° for max/min resp. 5 dry days in this period, with the 10 day total 70 % of normal, helped by 5.5 mm on the 20th, the month's wettest day. Quite sunny from the 11th to the 14th, then dull, giving a 10 day mean 143 % of normal. Moderate N'ly winds on the 11th fell light on 13th, backed SW'ly by 16th, increased fresh on 17th, veered light NW'ly on 19th and backed S'ly on 20th. **From the 21st to the 30th:** Anomalies for maxima ranged from -2.0° on the 30th to +4.3° on the 22nd, while for minima the range was -1.9° on the 21st to +6.6° on the 23rd, the month's mildest night. The 10 day mean anomalies were +1.4° and +2.7° for max/min resp. 5 dry days again, with the 10 day total just 25% of normal. Rather dull throughout with 8 days having <3 hours and a 10 day mean just 48% of normal. Moderate S'ly winds veered W'ly on the 22nd, became light S or SW until 27th, then moderate N'ly until 29th, dropping very light on 30th.

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

Wokingham Climatological Data



Daily meteorological data.

Emmbrook, WOKINGHAM, Berkshire.

Month: NOVEMBER 2004

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 ddd	mean ff	sp	Max gust ddd	gg	HHhh	High hr ddd	ff	HH	Rain hrs	
1	12.7	4.9	3.9	0.5	12.0	13.4	0.1	0.0	1023.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	45	3.4	3.5	40	14	1129	40	7	11	4.1	
2	11.2	8.9	0.4	7.6	12.0	13.4	0.0	0.0	1018.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	80	3.2	3.7	50	14	0030	40	7	00	1.8	
3	14.5	8.7	0.4	5.1	12.0	13.3	1.7	0.0	1015.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	182	2.9	3.2	190	14	1058	200	7	11	0.5	
4	14.1	8.7	0.0	3.3	12.0	13.2	5.4	0.0	1018.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	266	3.0	4.7	320	17	1337	330	8	10	0.0	
5	12.9	3.7	tr	-1.8	11.6	13.2	1.5	0.0	1031.7	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	252	3.3	3.6	300	14	1407	300	6	13	0.0	
6	12.4	6.8	1.0	1.7	11.2	13.2	0.0	0.0	1028.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	284	3.3	3.7	320	12	1336	320	6	13	1.8	
7	12.5	9.6	1.5	10.8	11.5	13.1	0.0	0.0	1025.6	0 0 0 0	0 0 0 0	0 0 0 1	0 0 0 0	317	1.3	2.2	340	13	2101	330	4	18	5.3	
8	12.2	9.3	0.8	6.1	11.8	13.0	0.0	0.0	1018.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	346	3.1	3.6	10	11	2024	360	5	12	1.3	
9	9.5	8.8	4.4	8.5	11.9	13.0	0.0	0.0	1016.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	331	2.4	3.9	350	21	1730	330	7	22	3.7	
10	10.4	4.7	tr	-0.7	11.5	13.0	4.7	0.0	1014.9	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	349	6.8	7.0	360	23	1449	360	10	12	0.0	
11	10.9	2.5	0.2	-2.8	11.0	12.9	6.3	0.0	1024.1	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	337	2.3	3.3	350	16	0025	350	8	00	1.3	
12	14.6	5.5	0.2	4.5	10.8	12.9	3.0	0.0	1022.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	301	3.1	5.8	350	28	1819	340	11	18	0.2	
13	8.2	0.7	0.0	-4.7	10.7	12.8	8.3	2.4	1035.8	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	342	3.7	3.9	320	15	1305	360	8	00	0.0	
14	10.0	-2.2	0.0	-7.2	9.5	12.6	7.8	9.2	1037.7	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	274	1.7	2.2	320	11	1419	320	5	14	0.0	
15	10.2	-0.1	0.0	-3.1	8.8	12.5	0.0	0.0	1030.6	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	247	4.0	4.3	280	15	1408	290	7	12	0.0	
16	13.0	6.8	tr	7.3	9.2	12.3	0.7	0.0	1028.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	235	3.7	3.9	250	14	2103	240	7	21	0.0	
17	13.5	9.3	4.6	7.9	9.9	12.1	2.2	0.0	1023.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	251	8.9	9.0	260	27	1615	260	12	12	3.8	
18	10.9	8.9	3.8	8.5	10.4	12.0	0.0	0.0	1017.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	254	4.9	7.4	20	27	2034	330	14	20	3.8	
19	5.3	0.8	0.0	-3.0	10.1	11.9	4.6	0.7	1022.2	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	302	2.6	3.1	330	14	0245	360	6	00	0.0	
20	5.0	-1.1	5.5	-5.2	9.1	11.9	0.0	5.2	1025.7	1 1 1 0	0 0 0 0	0 0 0 0	0 0 0 0	161	1.0	2.2	240	10	1001	230	4	10	9.0	
21	12.8	1.7	0.3	1.5	8.6	11.8	0.0	0.0	1022.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	198	2.6	4.3	240	21	2301	230	10	22	0.4	
22	13.8	5.0	0.0	6.9	9.1	11.6	3.6	0.0	1017.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	249	8.2	8.3	270	23	1347	260	11	12	0.0	
23	11.5	9.7	0.0	8.0	9.6	11.5	0.0	0.0	1027.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	255	2.5	2.6	250	14	0213	260	7	02	0.0	
24	10.8	8.5	tr	7.6	9.9	11.5	0.0	0.0	1031.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	150	1.0	1.2	160	5	1231	160	3	12	0.0	
25	12.0	7.3	0.2	5.4	10.0	11.4	3.0	0.0	1025.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	179	1.6	1.9	200	10	1413	200	5	14	0.3	
26	13.3	5.4	0.1	0.1	9.8	11.4	2.5	0.0	1020.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	230	3.6	4.3	230	16	1134	200	7	05	0.3	
27	9.8	5.5	2.4	0.9	9.8	11.4	0.4	0.0	1025.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	210	2.8	2.9	200	11	1410	210	6	14	3.3	
28	7.0	5.8	2.2	3.4	9.7	11.4	0.5	0.0	1013.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	337	4.3	5.8	360	22	1915	360	10	19	4.5	
29	7.8	4.8	0.0	1.6	9.5	11.4	1.3	0.0	1021.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	359	3.0	3.1	10	17	0038	360	8	00	0.0	
30	6.6	0.3	tr	-4.2	9.0	11.3	0.0	2.0	1015.0	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	60	0.4	0.7	110	4	0406	70	2	10	0.0	
Total			31.9				57.6	19.5																45.4
Mean	11.0	5.3		2.5	10.4	12.3	1.92	0.7	1023.3					277	1.7	4.0								
Anom	+0.5	+1.6	52%		+1.4	+0.8	83%																	+8.1
Daily mean		8.1																						
Anom		+1.0																						
Number of days with:																								
Air frost = 3																								
Ground frost = 9																								
Nil sun = 12																								
Snow falling = 1																								
Snow lying = 0																								
Thunder = 0																								
Hail=>5mm = 0																								
Hail<5mm or ice = 0																								
Fog at 09GMT = 1																								

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 NOVEMBER 2004

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	hCr	Cl	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	63	7	03	03	06	9.5	7.6	88	6.4	1023.4	3	006	02	1	1	7	5	6	/	/	81630	87635			1			
2	38	8	06	04	08	9.7	9.3	97	7.3	1018.3	6	003	20	6	5	8	7	2	/	/	85705	87708	88712		2			
3	45	7	18	03	08	11.1	10.7	97	8.0	1015.5	1	008	10	2	2	7	5	4	/	/	82615	87635			3			
4	68	7	26	04	10	12.5	11.6	94	8.5	1018.3	2	026	21	6	2	7	8	4	/	/	81710	87640			4	2Cu20		
5	75	8	27	03	08	7.0	4.7	85	5.2	1031.7	2	018	02	2	2	1	0	9	3	7	81368	88275			5	COTRA Halo 22° part		
6	58	8	27	04	06	9.9	8.3	90	6.7	1028.5	4	000	60	6	2	1	5	7	7	/	81650	86363	88465		6	2Ac60		
7	08	8	36	01	03	11.5	11.5	100	8.4	1025.6	1	008	58	5	4	8	7	1	/	/	86702	88703			7			
8	59	7	34	04	06	10.8	10.2	96	7.7	1018.4	6	003	20	6	5	7	5	3	/	/	81708	86618	87625		8	2St10		
9	40	8	03	03	06	9.5	8.5	93	6.9	1016.1	0	003	20	6	5	8	7	2	/	/	82705	87708	88710		9	jpE		
10	72	2	35	06	14	7.1	4.6	84	5.3	1014.9	3	018	03	0	0	1	8	4	0	1	81815				10	1Sc35 1Ci78 COTRA Cu hum Parhelia		
11	82	2	34	03	06	5.5	2.0	78	4.3	1024.1	0	015	03	0	0	1	5	6	3	1	81640				11	1Ac68 2Ci80 COTRA		
12	22	8	23	04	10	9.8	9.6	99	7.4	1022.3	5	003	51	5	5	8	7	2	/	/	83703	87705	88710		12			
13	86	1	35	04	09	3.0	-2.1	69	3.2	1035.8	1	017	02	0	0	0	0	9	0	1	81080				13	COTRA Hoar slt		
14	60	2	19	01	02	-0.1	-1.3	92	3.4	1037.7	1	002	02	0	0	1	5	6	0	1	81640				14	2Ci80 COTRA Hoar mod Gnd sfc frzn		
15	77	7	25	04	08	7.1	3.6	78	4.8	1030.6	3	002	02	2	2	7	5	5	/	/	87625				15			
16	68	7	20	02	04	9.3	8.3	93	6.7	1028.5	3	013	02	2	2	7	5	6	/	/	81630	87638			16			
17	72	7	25	11	20	12.1	8.7	80	6.9	1023.5	0	001	02	2	2	1	5	4	3	2	81712	87072			17	1Sc56 2Ac68 COTRA Parhelia		
18	62	8	25	04	07	9.3	8.3	93	6.8	1017.5	6	001	21	6	2	8	8	4	/	/	82815	86622	88640		18	jp NW		
19	61	6	29	03	07	2.5	1.2	91	4.1	1022.2	1	026	15	1	1	1	5	7	7	0	81650	86357			19	Ac str pe pra jpNW Hoar slt		
20	64	8	25	03	06	3.0	0.9	86	4.0	1025.7	1	006	03	2	2	6	5	6	2	/	81635	86650	88462		20			
21	25	8	08	02	04	5.0	5.0	100	5.4	1022.3	6	002	51	6	5	8	7	2	/	/	83704	85706	88709		21			
22	78	3	25	09	19	12.4	9.0	80	7.1	1017.6	3	011	03	1	1	1	8	4	0	1	81815	83080			22	1Sc40 COTRA Cu fra Cu hum		
23	75	7	26	04	06	10.5	8.5	87	6.8	1027.4	2	023	02	2	2	7	5	6	/	/	87635				23			
24	57	8	19	01	01	9.1	8.9	99	7.0	1031.7	1	006	10	2	2	8	5	6	/	/	81635	88640			24			
25	50	7	17	02	03	8.0	8.0	100	6.6	1025.8	8	001	10	2	2	7	5	7	/	1	87650	86075			25	COTRA		
26	50	5	21	05	10	10.3	9.7	96	7.5	1020.0	3	001	10	6	1	5	6	3	0	0	83708	83630			26	1Ci75		
27	72	8	20	02	04	6.1	5.4	95	5.5	1025.2	5	001	01	2	2	1	5	6	0	7	81640	88275			27	COTRA		
28	78	4	31	04	08	6.0	5.1	94	5.3	1013.0	2	001	01	6	1	1	5	6	7	2	81640	83362			28	2Ci70		
29	62	5	34	04	10	5.1	3.7	90	4.9	1021.0	2	015	02	2	2	5	5	6	0	1	82635	84640			29	1Ci78 COTRA		
30	38	7	09	02	03	3.5	3.5	100	4.9	1015.0	6	004	10	2	2	7	5	6	/	/	81645	83650	87656		30			

Mean vis = 15.4 km
 Mean cloud = 6.3 78%
 Mean wind speed = 3.6 kn
 Mean gust = 7 kn
 Mean TT = 7.9 C
 Mean TdTd = 6.4 C
 Mean RH = 90.8 %
 Mean r = 6.1 g/kg
 Mean PPP = 1023.3 mbar

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for NOVEMBER 2004

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks				
1	65	8	05	04	10	11.9	8.4	79	6.8	1021.5	6	008	03	2	2	8	8	5	/ /	83820	88640	1		
2	40	7	10	03	07	11.0	10.2	95	7.7	1016.6	6	011	05	5	2	7	5	3	/ /	81708	87620	2		
3	78	7	21	05	10	13.3	9.2	76	7.2	1015.4	5	001	01	2	2	7	8	5	/ /	81822	87656	3	1Sc40 Cu med	
4	84	1	31	07	14	12.8	5.6	61	5.6	1021.9	3	013	02	0	0	1	4	6	0 0	81836		4	1Sc40 Cu hum	
5	72	7	29	05	14	11.9	5.5	65	5.5	1031.2	7	007	03	2	2	1	8	5	7 1	81825	86363	86075	5	1Sc40
6	56	8	30	05	12	12.1	10.7	91	7.9	1026.0	6	010	50	5	2	7	5	3	7 /	86708	87615		6	/Ac62
7	22	8	33	02	04	12.2	11.8	98	8.6	1024.1	7	011	51	5	5	8	7	1 / /	83702	87704	88708	7		
8	61	7	36	03	06	11.9	10.4	90	7.8	1016.9	6	007	15	6	2	7	8	4 / /	81712	83818	87635	8	Cu med jpNW vv25k ex p	
9	50	8	23	03	07	9.1	8.3	95	6.8	1014.3	8	019	10	2	2	8	5	3 / /	84706	83620	88640	9		
10	60	7	36	10	23	9.0	6.6	85	6.1	1017.4	3	013	80	1	1	7	8	4 / /	81712	84820	87635	10	Cu med	
11	75	7	35	03	08	9.4	2.9	64	4.6	1023.9	4	000	03	1	1	1	5	6	7 1	81640	84368	86078	11	1Ac57 COTRA Ac str vir
12	72	7	29	08	19	13.6	10.1	80	7.7	1020.2	6	009	21	6	1	7	8	4 / /	83815	85630	87650	12		
13	84	1	34	06	12	7.3	-1.6	53	3.3	1035.3	6	007	02	0	0	1	1	6	0 0	81840			13	Cu hum
14	75	2	33	06	11	9.0	2.4	63	4.4	1035.4	8	015	03	0	0	1	8	6	0 1	81830			14	1Sc40 1Ci75 Cu hum
15	84	7	27	05	15	9.9	5.7	75	5.6	1027.5	7	012	02	2	2	7	5	5 / /	81622	87625		15		
16	77	7	26	11	22	12.7	8.9	78	7.0	1026.6	6	011	02	2	2	7	8	5 / /	82820	87638		16	Cu med	
17	80	7	26	11	22	13.0	9.9	81	7.5	1021.6	7	013	02	2	2	7	5	4 3 /	81718	87635		17	/Ac57	
18	80	8	23	09	18	10.2	9.0	92	7.2	1010.0	7	049	01	6	2	7	5	4 2 /	83712	83640	87650	18	8As60	
19	80	5	29	03	06	5.0	1.3	77	4.1	1023.9	1	006	01	2	2	1	8	5	3 1	81825	85075		19	1Sc40 1Ac68 COTRA Cu med Parhelia
20	30	8	09	02	04	1.7	1.3	97	4.1	1024.7	6	004	68	7	6	7	7	2 2 /	87703	88515		20		
21	50	7	23	04	08	9.9	9.7	99	7.5	1019.5	7	017	10	5	2	7	5	2 / /	83705	85635	87656	21		
22	78	7	27	09	22	13.0	8.2	73	6.7	1019.1	3	008	03	1	1	7	8	5	0 1	81825	87640		22	/Ci75 Cu med
23	73	8	25	02	03	11.3	8.5	83	6.8	1029.0	3	005	02	2	2	8	5	6 / /	81830	88640		23	Cu hum	
24	50	8	09	02	03	10.6	9.2	91	7.1	1029.8	6	011	50	2	2	8	5	4 / /	81710	83618	87635	24	8Sc50	
25	63	7	19	04	10	11.0	7.5	79	6.4	1023.1	6	014	02	2	2	3	8	5	0 1	81820	83645	86075	25	COTRA Cu med
26	78	6	27	06	14	12.5	10.0	85	7.6	1019.7	5	000	02	8	2	6	8	4	0 0	83815	85635		26	Cu con NW
27	70	8	21	04	11	9.3	4.8	74	5.3	1022.2	6	019	02	2	2	5	5	5	0 7	81625	85645	88275	27	COTRA
28	62	8	33	07	13	6.2	4.8	91	5.4	1012.7	7	002	61	6	2	8	5	4 / /	82710	87613	88620	28		
29	62	4	36	02	05	7.3	4.4	82	5.2	1019.7	6	010	01	1	1	2	8	5	0 1	81825	83080		29	2Sc40
30	40	7	03	02	03	6.5	5.9	96	5.8	1012.7	6	011	21	6	2	7	5	6 / /	82645	87656		30		

Mean vis = 19.8 km
 Mean cloud = 6.6 82%
 Mean wind speed = 4.9 kn
 Mean gust = 11 kn
 Mean TT = 10.2 C
 Mean TdTd = 7.0 C
 Mean RH = 81.6 %
 Mean r = 6.3 g/kg
 Mean PPP = 1022.1 mbar

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 Psychrometer
 Daily means and extremes, 00-24 GMT
 NOVEMBER 2004

Date	Mean			Max			Min			Missing RH	Number of minutes RH in given ranges								
	TT	TT	Time	TT	Time	RH	RH	Time	RH		Time	N >0	0-20	20-40	40-60	60-80	80-90	90-95	95-98
01	10.1	12.7	11:32	6.1	06:40	86.8	97.3	07:15	71.7	11:53		0	0	0	324	511	293	312	0
02	10.1	11.2	14:39	9.0	07:02	94.7	98.3	09:35	88.8	01:34		0	0	0	0	105	602	667	66
03	11.2	14.5	12:13	8.9	04:15	88.9	98.2	05:36	67.2	12:14		0	0	0	305	298	289	546	2
04	10.7	13.9	12:48	5.1	23:11	80.9	96.0	03:56	55.9	13:43		0	0	135	508	205	463	129	0
05	8.0	12.8	13:50	4.5	03:10	81.7	91.2	06:40	60.0	13:58		0	0	1	412	920	107	0	0
06	10.3	12.5	13:41	7.3	04:55	91.8	98.5	23:59	84.1	12:58		0	0	0	0	505	617	271	47
07	11.3	12.2	13:58	9.4	22:03	97.8	99.8	13:04	93.1	23:59		0	0	0	0	0	159	340	941
08	10.5	12.2	12:24	9.6	00:25	93.6	97.9	08:34	89.0	15:22		0	0	0	0	125	795	520	0
09	8.7	9.7	01:39	6.3	23:59	94.4	99.7	17:32	88.4	22:58		0	0	0	0	122	588	721	9
10	7.6	10.4	13:37	5.3	06:31	84.7	95.4	06:43	68.6	13:30		0	0	0	429	475	507	29	0
11	7.6	10.9	13:20	3.7	07:19	78.2	98.3	23:28	55.3	13:07		0	0	129	671	388	56	134	62
12	9.8	14.7	13:03	5.2	23:59	85.2	99.1	07:42	61.1	18:23		0	0	0	559	188	48	54	591
13	3.8	8.4	13:22	0.3	23:47	66.8	85.8	23:44	47.1	13:50		0	0	407	914	119	0	0	0
14	3.4	9.9	13:41	-1.5	07:06	82.5	97.1	07:47	58.2	14:07	63	0	0	56	431	470	341	79	0
15	7.5	10.2	12:47	2.9	00:35	81.9	89.4	00:35	70.8	12:49		0	0	0	585	855	0	0	0
16	10.7	13.0	12:39	8.8	07:32	87.3	94.2	23:12	75.4	13:21		0	0	0	257	576	607	0	0
17	12.1	13.5	10:19	10.7	03:16	82.2	92.4	03:15	72.8	10:22		0	0	0	562	670	208	0	0
18	9.1	12.2	01:49	2.8	23:31	94.0	99.3	20:27	82.3	00:26		0	0	0	0	213	550	585	92
19	2.8	5.2	13:28	0.4	23:20	86.4	93.4	23:57	73.2	13:38		0	0	0	369	470	601	0	0
20	1.7	3.6	09:55	-0.2	03:24	94.5	97.7	19:20	85.0	09:44		0	0	0	0	138	584	718	0
21	7.0	11.2	23:59	2.7	00:16	94.5	99.0	13:34	86.2	21:44		0	0	0	0	252	442	367	379
22	12.2	13.8	12:47	11.1	23:23	82.3	93.3	03:36	70.2	13:52		0	0	0	471	781	188	0	0
23	10.6	11.6	13:48	9.4	23:39	87.3	95.0	23:47	81.0	11:48		0	0	0	0	1120	320	0	0
24	9.8	10.9	13:37	8.8	06:13	93.9	96.7	07:41	89.1	13:19		0	0	0	0	90	826	524	0
25	8.8	12.0	12:05	7.1	21:26	90.8	98.1	08:16	72.4	13:48		0	0	0	218	206	585	424	7
26	10.3	13.5	12:16	7.7	22:11	89.4	96.3	21:58	78.7	12:18		0	0	0	29	834	310	267	0
27	8.3	9.8	13:57	6.2	08:20	86.9	96.3	00:33	69.4	13:57		0	0	0	326	406	451	257	0
28	6.9	9.1	02:33	5.4	16:09	93.0	100.0	05:29	80.6	11:31		0	0	0	0	167	763	504	6
29	4.9	7.8	14:33	1.2	21:15	92.1	98.3	22:47	80.7	14:33		0	0	0	0	363	646	426	5
30	3.8	6.6	13:40	-0.2	23:50	95.9	98.6	07:41	85.6	19:16		0	0	0	0	65	249	1006	120
Mean	8.3	11.0		5.5		88.0	96.4		74.7			0.00	0.00	0.40	4.09	6.47	6.78	4.93	1.29
Hi	12.2	14.7		11.1		97.8	100.0		93.1	Tot	63	0	0	728	7370	11637	12195	8880	2327
Lo	1.7	3.6		-1.5		66.8	85.8		47.1										

Note. Aspirated Psychrometer exposed near house. Winds with a component from 030 deg can produce a distorted diurnal temperature profile. Compensation for this is made in post processing, and maxima are constrained to be within 0.2C of screen values about 500m away. Minima on radiation nights can also be about 1C higher than screen values, due partly to topography. No compensation is made for this. Humidity readings are similar to screen derived values under most conditions and in most instances can be considered more accurate due to controlled aspiration. The psychrometer is of experimental design, and logs one minute average values of temp and RH.

WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

Lat 51°25'N 00°51'W NGR (SU)800699 Altitude 44m ASL

Seasonal Means and Totals

AUTUMN 2004

Temperature (°C)

Rank in the past 123 years

Mean maximum	15.5	(+0.8)	19 th highest
Mean minimum	8.1	(+1.4)	* Equal highest with 1994 *
Daily mean	11.8	(+1.1)	2 nd highest
Rainfall total (mm)	165.1	87 %	45 th lowest
Sunshine total (hours)	334.3		
N ^o of: Dry days	42 (-9)	Wet days	33 (+4)
Days with: Air frost	3 (-5)	Ground frost	13 (-13)
Thunder	1 (-2)	Hail ≥5mm	0
		Small hail/ice	1
		Fog @09 GMT	1 (-4)
		Nil sun	15
Air pressure MSL : Mean @09 GMT (mbar)	1016.3		(+0.7)

Departure from 1971 to 2000 average shown in brackets.

Notes:

Very Mild.

Rainfall Below Normal.

Sunshine Above Normal.

Temperature. The most significant aspect of this autumn's temperature is the mean minimum which at 8.1° is equal highest with 1994 in the past 123 years. Despite the mean maximum ranking only 19th highest in the same period, the resulting overall mean, 11.8°, is equal 2nd highest with 2001 and 1949 after 1995 with 11.9°. High minima during the autumn season could be an aspect of the climate change now upon us, with 6 out of the last 7 autumns having their mean minimum in the highest 10 % of values since 1882. This season's highest temperature, 27.7° on the 5th September, is 3.2° above the median. The season's absolute minimum was on the 14th November, and at -2.2° is 1.7° above the median. The lowest maximum, 5.0°, 0.4° above the median, was on the 20th November, and the highest minimum, 16.8°, 1.6° above the median, was on the 9th September. The mean daily temperature range of 7.3° is lowest since 1998. The mean grass minimum was 5.1°, and the lowest was -7.2° on the 14th November, the lowest autumn value since 1998. The mean earth temperature at 30 cm depth was 13.4°, anomaly +0.6°, and at 1 metre depth the mean of 14.6° is close to normal. The first ground frost of the season was on the 25th September after a frost free period of 124 days, while the first air frost was on the 14th November after a frost free period of 218 days. **Rainfall.** The total this season is well below the long-term median of 183 mm, and it is the driest autumn in the past 7 years. Both September and November were comparatively dry, having together only 56 mm, while October alone was wet with a total of 109 mm. There were no significantly large daily falls at any time, and the season's highest was 16.4 mm on the 13th October, although there was also a fall of 16.1 mm on the 23rd of that month. Rainfall duration was most in October with 73.7 hours, followed by November with 45.4 hours and September with 15.3 hours, and the longest daily duration was 10.2 hours on the 3rd October. There was just one dry spell, of 9 days ending on the 8th September. Thunder was recorded on the 20th October, small hail fell on the 6th October and snow on the 20th November. **Sunshine.** The mean daily sunshine is only just below the sunny category, but is lowest since 2001. However, sunshine totals in both October and November were poor, and it is the 170 hours in September that bolstered the season's figures. The sunniest day was the 4th September with 12.7 hours, although 12.6 hours was also recorded on the following day. Of the 15 days without sunshine, 12 were in November. Overall there were 46 days with <3 hours, 21 with =>6 hours, 11 with =>9 hours and 4 with =>12 hours. **Wind.** The mean wind speed this season of 6.2 mph is close to average, but is highest since 2000. The windiest day was the 21st October, mean speed 14.3 mph, but the highest gust of 46 mph was on the 20th of that month. The least windy day was the 30th November, 0.8 mph, and the calmest autumn day since 1998. There were 101 hours with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,5 NE,8 E,7 SE,4 S,13 SW,29 W,18 NW,7. **Pressure.** The highest value recorded this autumn was 1037.8 mbar on the 14th November. The lowest pressure was reached on the 20th October, 986.5 mbar, but this is the highest minimum for this season since 1989. **Humidity.** The overall mean relative humidity was 83.8 %, and on the 8th September in the afternoon it fell to the season's lowest value, 28 %. The mean amount of water vapour per kg of air was 7.5 g at 0900 GMT and 7.3 g at 1500 GMT.

September. Very warm, dry, sunny and windy. Mean minimum and mean temperature both 4th highest in 123 years. Outstanding sunshine averaging 10.9 hours a day between the 1st and 9th. Windiest since before 1988.

October. Mild, wet, sunshine below normal. Mean minimum 9th highest in 123 years. Highest maximum lowest since 1982. Fewest dry days since 1981. Mean pressure lowest since 1976.

November. Mild, dry, sunshine below normal, little wind. Mean minimum 9th highest in 123 years. Highest maximum lowest since 1987. Highest minimum lowest since 1976. Rainfall lowest since 1989. Highest daily fall lowest since 1956. Most days with nil sun since 1994. Lowest mean wind speed since 1988. Highest gust a new low record for November. Lowest pressure highest since 1981.

Month	Mean	Ano	Mean	Anom	Rain	Anom	Sun	Anom	Wind	Max	Mean	Anom
	Max		Min		mm	%	hrs	%	Mn mph	gust	pressure	
Sep	20.6	+1.7	11.2	+1.5	24.0	38 %	179.4	125 %	7.1	43	1018.9	+2.4
Oct	14.9	+0.1	7.9	+1.2	109.2	163 %	97.3	89 %	6.8	46	1006.9	-8.3
Nov	11.0	+0.5	5.3	+1.6	31.9	52 %	57.6	83 %	4.6	32	1023.3	+8.1

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.