

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

NOVEMBER 2009

Temperature (°C / °F)			Anomaly	Rank in the past 128 years			
Mean maximum	12.3	54.1	+1.8	6 th highest			
Mean minimum	6.6	43.9	+2.9	2 nd highest			
Daily mean	9.5	49.1	+2.4	2 nd highest			
Highest maximum	16.9	62.4	on 1 st	Lowest maximum	6.2	43.2	on 30 th
Highest minimum	12.8	55.0	on 20 th	Lowest minimum	-1.6	29.1	on 9 th
Mean grass minimum	3.0	37.4	+2.0	Lowest grass minimum	-6.0	21.2	on 9 th
Mean earth @30 cm	10.7	51.3	+1.7	Earth @100 cm	12.5	54.5	
Frost duration (hrs)	5.8			Rain duration (hrs)	83.8		
Rainfall total (mm / in)	138.7	5.46	227 %	7 th highest			
Highest daily fall	19.5	0.77	on 29 th				
Number of: Dry days (<0.2mm)	5	Wet days (>0.9mm)	21	days ≥5mm	9		
Sunshine total (hrs) 85.0	Daily mean	2.83	105 %	Sunniest day	7.3	on 15 th	
N° days with: Air frost 1	Ground frost	8	Snow falling	0	Snow lying	0	
Thunder 1	Hail ≥5mm	0	Small hail/ice	0	Fog @09	1	Nil sun 4
Air pressure MSL : Mean @09 GMT (mbar/in)	1001.5	-13.7	29.57				
Absolute highest	1021.0		30.15	on 9 th			
Absolute lowest	982.2		29.00	on 29 th			

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

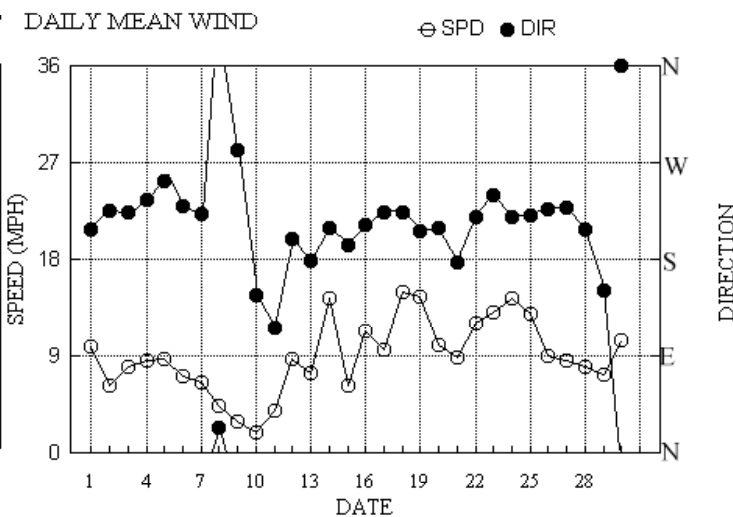
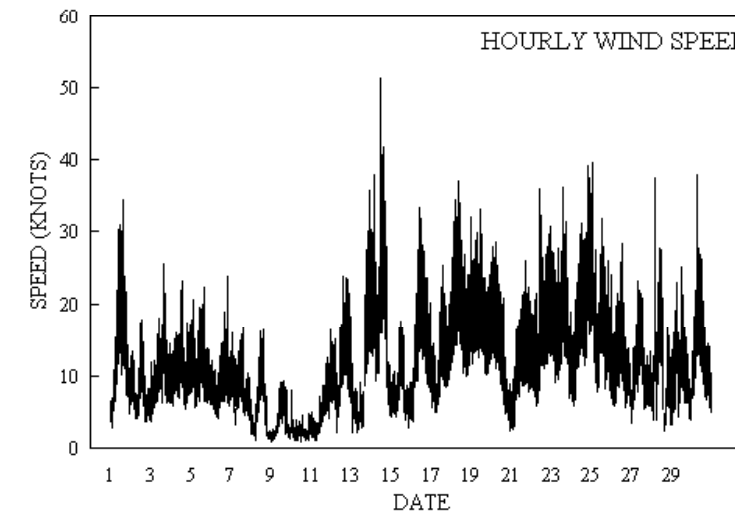
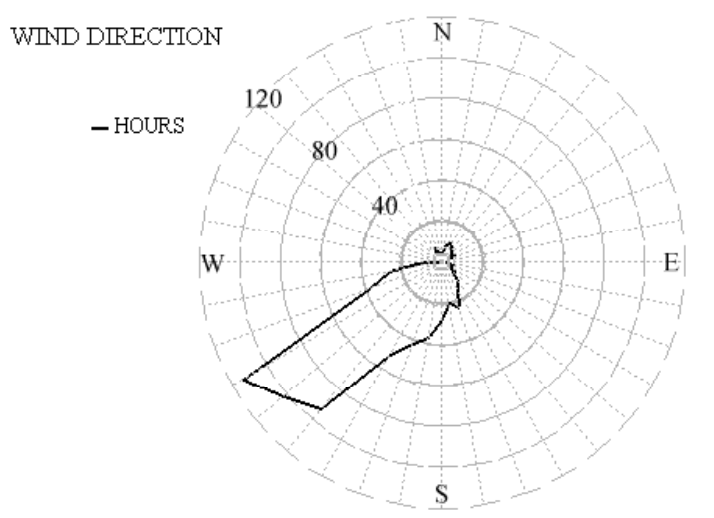
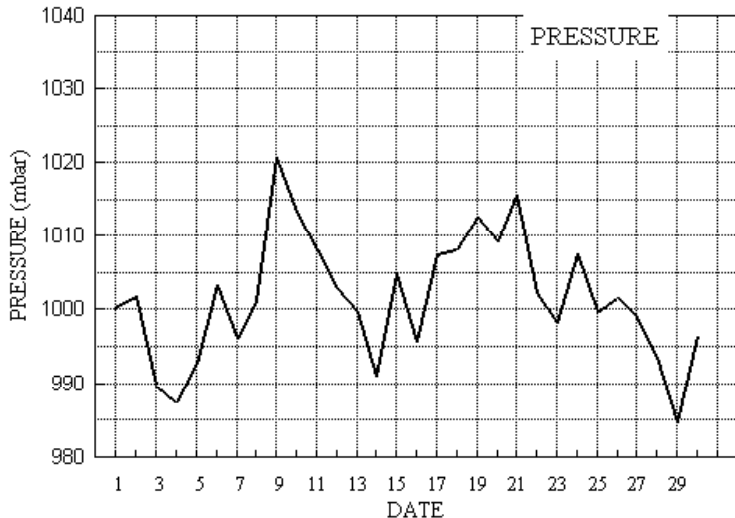
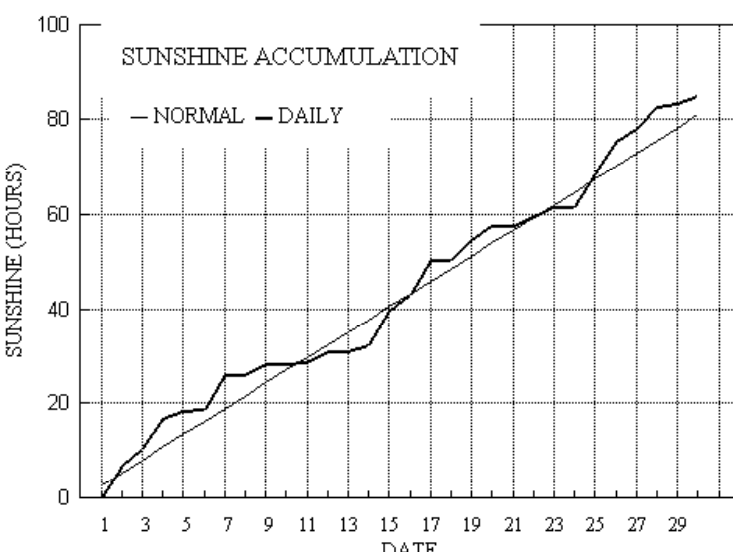
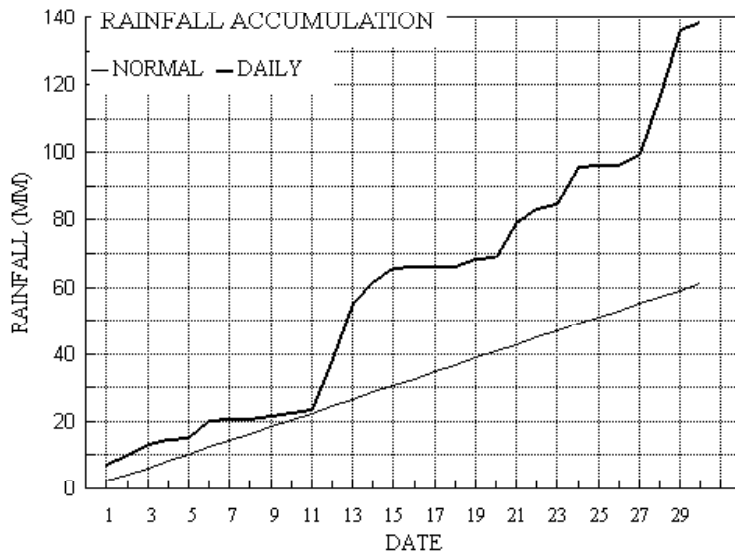
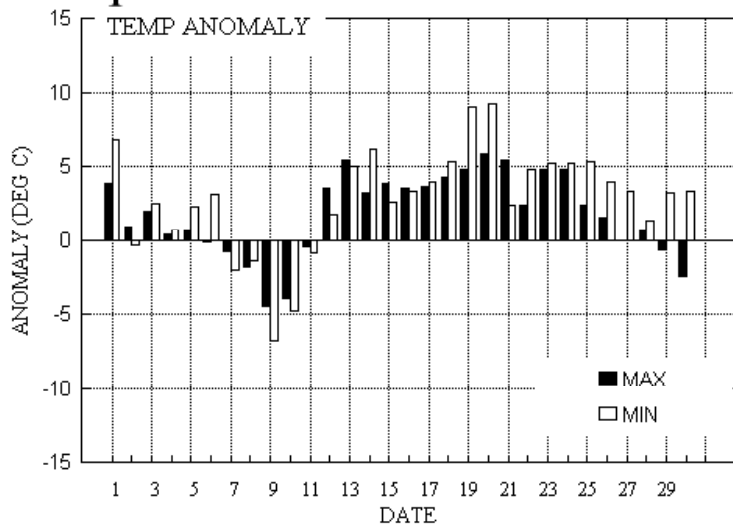
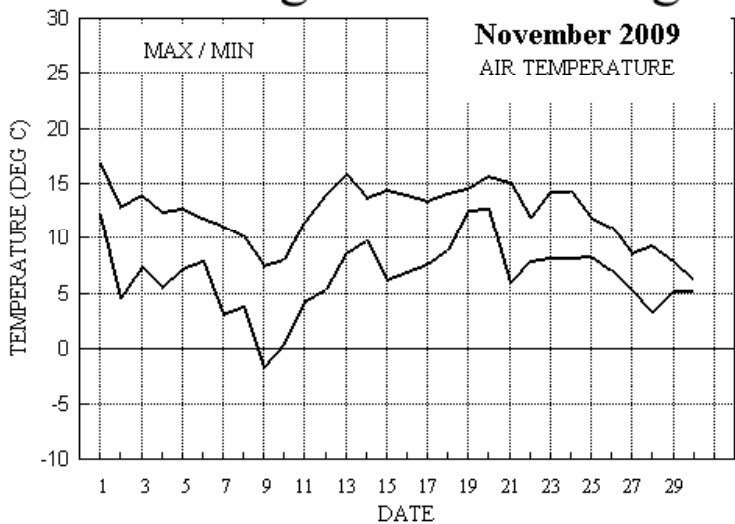
Notes: **Very Mild. Very Wet. Sunshine above normal. Windy.**

Temperature : This has been an exceptionally mild November, 2nd mildest since before 1882, and mildest since 1994. The highest max is 1.3° above the median and is highest since 2005. The lowest max is 1.5° above the median while the highest min is 2.2° above its median and equal highest with 2005 since 1997. The lowest min is 2.0° above the median and highest since 2002. The mean and lowest grass min are both highest since 2003. Earth temperatures are well above normal. Both the number of days with air and ground frost are lowest since 2002. The duration of air frost is 35.6 hours below average and also lowest since 2002. **Rainfall :** This has been a very wet month with more than twice the average rainfall. However, there have been 6 wetter Novembers in the past 128 years, with the record being held by 1929 which had 172.2 mm, 33.5 mm more than this month's. There was a dearth of dry days, just 5, which is equal lowest with 2002 since before 1976. Also, the 6 days with 10 mm or more is equal highest with 2006 in the same period. The duration of rainfall is 21.9 hours above average and highest since 2003. Despite the foregoing, the highest 24 hour total of 19.5 mm is only 2.7 mm above the median, and is highest since only 2007. **Sunshine :** With such a wet month the sunshine figures held up surprisingly well. The total sunshine is actually above average, and we had 30 hours more than in the same month last year. Overall there were 19 days with <3 hours and 7 with =>6 hours. **Wind :** This has been a very windy month, with a mean speed of 9.0 mph, 2.7 mph above average and for November is equal highest with 1992 since before 1988. The 18th was the windiest day, mean speed 15.0 mph, but the month's highest gust of 59 mph was on the 14th. This is the highest November gust since before 1988. The least windy day was the 10th, mean 1.8 mph, and there were 257 minutes (4.28 hours) with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,1 NE,1 E,0 SE,3 S,4 SW,19 W,2 NW,0. **Humidity :** The overall mean relative humidity was 83.8 %, and the lowest value was 54 % on the 2nd. The mean water vapour content per kg of air was 6.5 g at 0900 and 6.1 g at 1500 GMT. **Pressure :** Both the mean and the month's highest pressure are lowest since 2000. **Commentary: From the 1st to the 11th :** Temperatures were above normal on the 1st but dropped away thereafter. Anomalies for daily max ranged from +3.9° on the 1st to -4.5° on the 9th, and for daily min +6.8° on the 1st and -6.8° on the 9th. Although only the 8th was dry, this was the driest period in the month with a total of 23.8 mm. Sunshine was reasonable to the 7th then poor. Winds were SW'ly moderate or fresh, falling light on the 7th, veering N'ly on the 8th then backing SE'ly by the 11th. **From the 12th to the 24th :** Temperatures were exclusively above normal, with anomalies for daily max in the range +5.9° on the 20th to +2.4° on the 22nd, and for daily min, +9.2° on the 20th to +1.8° on the 12th. Wet at first, with 31.4 mm over the 2 days 12th and 13th, but there was a drier interlude from the 16th to the 20th. Generally dull but with a sunny interlude from the 15th to 17th. Winds were mainly S'ly or SW'ly, moderate on the 12th increasing to very strong on the 14th, then moderate or fresh to the 17th, then mainly fresh or strong until the 24th. **From the 25th to the 30th :** Temperatures gradually fell back, to end the month near normal, with anomalies for daily max falling to -2.4° on the 30th, though anomalies for daily min were generally around +3°. Not much rain fell until the 27th, then there was 42.2 mm over the final 4 days of which 36.4 mm fell in the 2 day period 28th/29th. Sunny on the 25th and 26th, then less so. Strong SW'ly winds became moderate or fresh after the 25th and backed N'ly on the 30th.

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			
-0.3°	0.0°	113 %	104 %	+3.8°	+4.6°	225 %	107 %	+1.9°	+3.8°	343 %	100 %

Wokingham Climatological Graphs for November 2009



Month: November 2009

Date	Max		Rain	Grass	30cm		100cr	Sun	Frost	pp09	Af	Sf	Th	Ic	Vec mean			Max gust			High hr			Rain	
	C	C			mm	Min									C	C	hrs	hrs	mbar	Gf	Sl	Ha	Fg		ddd
1	16.9	12.2	7.4	7.8	13.3	13.8	0.2	0.0	1000.3	0	0	0	0	0	0	208	6.6	8.6	253	35	1442	248	15	14	2.9
2	12.9	4.5	2.6	-0.1	12.8	13.8	6.7	0.0	1001.7	0	1	0	0	0	0	225	4.8	5.5	267	18	1218	260	9	12	2.2
3	14.0	7.4	3.4	2.9	12.1	13.8	3.7	0.0	989.7	0	0	0	0	0	0	224	6.5	7.0	253	26	1415	252	11	14	1.8
4	12.4	5.6	1.3	1.7	11.8	13.6	6.1	0.0	987.3	0	0	0	0	0	0	235	7.4	7.4	210	23	1428	244	10	11	1.3
5	12.7	7.2	0.5	3.3	11.2	13.5	1.8	0.0	992.7	0	0	0	0	0	0	253	7.4	7.6	276	23	1503	267	10	13	0.8
6	11.9	8.0	5.2	5.3	11.3	13.3	0.4	0.0	1003.2	0	0	0	0	0	0	230	5.8	6.2	263	24	1918	257	9	19	3.5
7	11.2	3.2	0.2	-2.2	11.2	13.2	7.2	0.0	996.0	0	1	0	0	0	0	222	4.6	5.7	239	17	1403	251	8	12	0.2
8	10.2	3.8	tr	-1.7	10.5	13.1	0.1	0.0	1001.1	0	1	0	0	0	0	24	3.3	3.7	46	17	1409	29	7	10	0.0
9	7.5	-1.6	1.1	-6.0	10.0	12.9	2.1	5.8	1020.7	1	1	0	0	0	0	282	1.5	2.5	298	9	1534	320	5	15	1.9
10	8.1	0.4	1.0	-4.9	9.4	12.7	0.0	0.0	1013.3	0	1	0	0	0	0	147	0.4	1.6	261	8	0101	244	3	01	3.5
11	11.5	4.3	1.1	5.4	9.7	12.5	0.5	0.0	1008.2	0	0	0	0	0	1	116	2.7	3.4	138	17	2258	146	8	23	1.2
12	14.0	5.4	14.8	-1.3	10.2	12.3	2.2	0.0	1002.9	0	1	0	0	0	0	199	7.1	7.6	186	24	1445	196	12	19	8.6
13	15.9	8.6	16.6	5.1	10.5	12.2	0.0	0.0	999.6	0	0	0	0	0	0	179	6.1	6.5	194	36	2132	184	15	22	7.6
14	13.7	9.8	6.6	7.9	11.1	12.2	1.2	0.0	991.0	0	0	0	0	0	0	209	11.9	12.5	207	51	1142	226	20	14	3.6
15	14.4	6.2	4.2	-0.1	10.7	12.2	7.3	0.0	1004.7	0	1	0	0	0	0	193	4.8	5.4	219	18	1158	222	9	11	3.4
16	14.0	6.9	0.1	0.6	10.5	12.2	3.7	0.0	995.6	0	0	0	0	0	0	212	7.7	9.9	238	33	1054	233	16	10	0.1
17	13.5	7.6	tr	4.2	10.5	12.2	7.2	0.0	1007.5	0	0	0	0	0	0	223	8.2	8.3	237	26	1433	219	11	23	0.0
18	14.1	8.9	0.1	8.2	10.3	12.1	0.0	0.0	1008.2	0	0	0	0	0	0	224	12.9	13.0	232	37	0906	228	17	09	0.1
19	14.6	12.6	2.2	11.0	10.7	12.0	4.4	0.0	1012.7	0	0	0	0	0	0	206	12.6	12.7	205	33	1150	210	15	11	2.3
20	15.7	12.8	0.7	10.3	10.9	12.0	2.9	0.0	1009.2	0	0	0	0	0	0	209	8.4	8.7	207	29	0558	199	14	01	1.5
21	15.2	6.0	10.3	0.4	11.0	12.0	0.1	0.0	1015.6	0	0	0	0	0	0	177	7.2	7.7	193	26	1719	187	12	17	7.3
22	11.9	7.9	4.0	4.9	11.3	12.1	2.0	0.0	1002.2	0	0	0	0	0	0	219	10.2	10.5	195	36	1055	223	14	12	2.8
23	14.3	8.3	1.6	6.2	10.7	12.1	1.8	0.0	998.1	0	0	0	0	0	0	239	11.2	11.4	261	36	1454	255	15	14	0.9
24	14.3	8.3	11.1	5.8	10.7	12.1	0.0	0.0	1007.6	0	0	0	0	0	0	220	12.3	12.4	211	39	2017	211	20	20	4.1
25	11.9	8.4	0.4	5.2	11.0	12.0	7.1	0.0	999.6	0	0	0	0	0	0	221	11.1	11.2	216	40	0201	221	17	02	0.3
26	11.0	7.1	tr	3.8	10.4	12.0	6.9	0.0	1001.6	0	0	0	0	0	0	226	7.6	7.8	247	28	1211	242	13	12	0.1
27	8.6	5.3	3.3	2.3	9.9	12.0	2.5	0.0	999.1	0	0	0	0	0	0	228	7.4	7.5	244	23	0859	237	12	09	1.9
28	9.3	3.3	16.9	-1.8	9.4	11.8	4.7	0.0	993.6	0	1	0	0	0	0	208	3.4	7.0	206	38	0421	237	13	10	7.5
29	7.9	5.2	19.5	3.0	9.0	11.6	0.7	0.0	984.7	0	0	0	1	0	0	151	5.6	6.3	185	25	1143	164	10	13	10.5
30	6.2	5.3	2.5	4.0	8.9	11.4	1.5	0.0	996.5	0	0	0	0	0	0	360	8.6	9.0	23	38	0701	16	14	07	1.9
Total			138.7				85.0	5.8																	83.8
Mean	12.3	6.6		3.0	10.7	12.5	2.83	0.2	1001.5							217	5.9	7.8							
Anom	+1.8	+2.9	227%		+1.7	+0.7	105%																		
Daily mean		9.5																							
Anom		+2.4																							

Number of days with:

Air frost = 1 Ground frost = 8 Nil sun = 4
 Snow falling = 0 Snow lying = 0 Thunder = 1
 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 2009

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	25	8	16	13	31	14.2	13.4	95	9.6	1000.3	7	091	63	6	2	7	7	3	2	/	82708	87712	88520					1	Hvy ra in past hr
2	86	1	24	05	09	7.6	5.2	84	5.4	1001.7	2	016	02	0	0	0	0	9	0	1		81075						2	
3	65	7	23	10	16	12.2	11.2	93	8.4	989.7	7	020	80	8	2	6	5	3	7	/	82708	83656	85360					3	2Sc30 2Ac58 Rainbow
4	86	2	23	08	15	7.9	5.4	85	5.7	987.3	1	011	02	0	0	1	5	6	6	3		81640						4	1Ac62 1Ac65 1Ci70 COTRA Cb top SW&W
5	60	7	27	07	16	9.3	7.7	90	6.6	992.7	2	032	60	6	2	7	5	4	7	1		83712	84625	85645				5	/Ac60 /Ci72
6	67	7	22	05	08	8.3	6.4	88	6.0	1003.2	1	011	02	2	2	1	5	5	7	/	82620	83463	87365				6		
7	84	1	25	06	11	5.7	3.5	85	4.9	996.0	1	016	02	0	0	1	0	9	6	3		81365						7	1Ci70 Cb top SW
8	62	8	02	06	12	7.6	7.2	97	6.4	1001.1	2	038	21	6	2	8	5	3	/	/	82707	87710	88630				8		
9	22	1	26	02	05	3.7	3.5	98	4.8	1020.7	1	013	28	4	0	1	6	0	0	0		81701						9	Hoar slt Fog until 0830
10	18	8	02	02	03	4.3	4.0	98	5.0	1013.3	7	004	63	6	2	2	8	5	2	/	81825	88540						10	2Sc35
11	01	3	04	03	04	6.9	6.7	99	6.1	1008.2	3	002	46	4	1	3	5	7	0	0		83650						11	vv 150m
12	63	5	18	05	09	8.7	7.8	94	6.6	1002.9	1	016	03	1	1	3	0	9	7	6		83465	85275					12	1Ac66 COTRA Halo 22° part
13	40	8	14	03	05	10.3	9.9	97	7.6	999.6	3	001	63	6	6	1	7	2	2	/	81705	88540						13	
14	65	5	20	12	21	10.3	6.6	77	6.2	991.0	1	008	15	8	1	3	9	5	0	3		82920	84070					14	1Cu25 1Sc35 Cb&jp SE vv 30k ex p
15	81	2	20	06	11	8.9	8.3	96	6.8	1004.7	3	012	01	8	1	2	8	5	0	1		81825						15	2Sc50 1Ci70 Cu med S
16	78	5	21	13	28	12.9	10.0	83	7.7	995.6	5	005	01	8	6	3	8	4	0	2		82815						16	2Sc35 2Ci72 Cu med
17	75	2	22	05	12	8.9	6.5	85	6.0	1007.5	2	017	02	0	0	1	0	9	3	9		81368						17	1Cc72 1Ci75 COTRA
18	80	8	23	18	37	13.3	8.4	72	6.9	1008.2	1	001	60	6	2	6	8	5	7	8		82822	83650	85357				18	2Sc35 /Cs75 Cu hum Pptn v slt
19	70	8	21	12	26	13.1	8.7	75	7.0	1012.7	1	004	21	6	2	8	5	5	/	/	86625	88635						19	
20	75	8	21	12	23	13.8	11.9	88	8.6	1009.2	3	020	02	6	2	7	5	4	7	/	82712	87615	88462					20	4Ac58
21	70	8	17	09	15	13.0	12.4	96	8.9	1015.6	7	005	02	5	2	7	6	3	/	8	827018	87710						21	/Sc50 /Cs72
22	66	5	20	08	15	9.7	6.5	81	6.1	1002.2	8	008	03	8	1	1	8	6	7	2		81830	83070					22	1Sc56 1As65 1Ac68 Cu med
23	62	7	24	11	28	11.7	10.2	90	7.8	998.1	6	007	21	6	2	7	7	4	7	1		86712	83640					23	4Ac60 3Ci75 Hvy ra 0801-05
24	60	8	23	12	26	12.9	11.0	89	8.2	1007.6	2	014	58	6	5	8	5	4	/	/	82710	87715	88640					24	
25	84	1	22	07	18	8.8	5.0	77	5.5	999.6	2	015	03	0	0	1	8	5	6	3		81825						25	1Sc40 1Ac62 1Ci70 Cb top S-SW
26	68	1	23	10	20	7.8	3.8	76	5.0	1001.6	3	009	15	0	0	1	8	5	6	3		81820						26	1Sc40 1Ac62 1Ci70 Cb top S&NW jpNW
27	58	7	23	11	23	6.7	2.7	76	4.7	999.1	3	006	80	8	1	5	9	4	/	3	81710	84925	83070					27	2Sc30 Rainbow vv40k S&E
28	82	1	22	12	23	5.6	2.0	78	4.4	993.6	2	006	02	0	0	1	5	6	6	3		81645						28	1Ac62 1Ci70 Cb tops NW to N
29	60	7	12	06	10	6.0	5.0	93	5.6	984.7	1	003	80	9	8	3	9	5	2	/	81825	83930	85550					29	1Sc40 1Ac60 vv50k exS
30	65	8	01	13	28	5.4	4.3	93	5.2	996.5	2	059	63	6	6	7	5	4	2	/	87615	88525						30	

Mean vis = 20.8 km

Mean cloud = 5.2 65%

Mean wind speed = 8.4 kn

Mean gust = 17 kn

Mean TT = 9.2 °C

Mean TdTd = 7.2 °C

Mean RH = 87.6 %

Mean r = 6.5 g/kg

Mean PPP = 1001.5 mbar

See appendix 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 November 2009

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	shs	NChs	shs	Date	Remarks
1	88	7	25	15	35	14.1	8.2	68	6.9	997.7	2	011	02	2	2	1	8	5	1	8	81825	83272	86077			1	1Sc40 1As68 COTRA Cu hum Cld edge NW	
2	84	7	24	07	13	11.1	3.2	58	4.8	1000.9	7	010	14	1	1	1	8	6	7	1	81830	83468	85075			2	1Sc56 2Ac65 COTRA jpSW Cu med S	
3	84	2	26	13	26	13.1	6.3	63	6.2	984.5	6	020	01	6	1	2	8	5	0	3	82828					3	1Sc50 1Ci70 Cu med ra Cb top NW	
4	65	7	22	07	23	9.4	5.7	77	5.8	985.9	6	012	80	8	1	6	9	5	6	/	82920	85650				4	1Cu25 3Ac60	
5	82	7	26	10	19	11.8	4.6	61	5.3	995.5	2	012	02	2	2	7	8	5	/	/	81828	87645				5	Cu hum	
6	60	8	21	08	15	11.5	7.1	75	6.4	999.6	7	029	60	6	2	7	5	4	2	/	81618	85625	88556			6	3Sc35	
7	82	4	23	07	17	10.2	3.4	63	4.9	995.8	8	010	03	0	0	1	8	5	0	4	81828	84068				7	1Ac40 COTRA Cu hum	
8	82	7	04	06	17	9.8	6.4	79	6.0	1008.4	2	030	02	8	2	7	8	5	/	/	82820	87640				8	Cu med	
9	61	7	33	04	09	7.2	4.7	84	5.3	1019.5	8	009	02	2	2	7	5	4	/	/	81710	87612				9		
10	50	8	16	02	04	7.7	7.1	96	6.3	1011.2	7	016	10	6	2	8	5	2	/	/	87705	88640				10		
11	60	7	11	04	09	9.9	8.3	89	6.9	1005.0	7	023	05	2	2	7	6	4	3	1	85710	85635				11	/Ac65 /Ci75 COTRA Sc cas	
12	65	7	19	09	24	13.4	10.2	81	7.8	1000.0	7	020	25	8	2	7	8	4	7	/	81715	84820	85640			12	/Ac65 Cu med	
13	68	7	11	02	07	11.2	10.4	95	7.9	998.6	7	006	02	6	2	7	5	3	7	1	81708	85615	86625			13	/Ac62 /Ci75	
14	65	7	25	22	42	11.5	6.4	71	6.1	989.5	3	005	80	8	2	7	8	5	/	2	83820	85640				14	/Ci70 Cu med	
15	80	3	22	05	16	12.6	7.5	71	6.4	1005.4	3	001	02	0	0	1	8	5	0	1	81825					15	1Sc45 2Ci78 Cu med	
16	78	4	21	14	27	12.9	6.6	65	6.1	1000.4	1	006	15	1	1	3	8	5	3	1	81828	83645				16	1Ac65 2Ci75 Cu med jpW	
17	82	3	23	11	25	12.4	4.3	58	5.2	1008.7	3	007	15	1	1	3	8	6	0	0	81835	83640				17	Cu med jpN	
18	63	8	23	12	24	13.6	9.6	76	7.4	1012.1	1	014	21	6	5	8	5	4	/	/	81618	84622	85635			18	8Sc45	
19	75	7	21	12	24	13.4	8.0	70	6.7	1010.8	7	009	02	2	2	1	1	5	0	1	81822	87078				19	Cu hum	
20	77	3	24	07	21	14.4	8.1	66	6.7	1014.2	2	023	02	1	1	1	8	5	0	8	81825					20	1Sc40 2Cs72 1Ci77 Cu med Cs edge SE Parhelion	
21	50	8	17	08	17	13.5	11.5	88	8.5	1009.1	7	031	58	6	5	7	5	4	2	/	82712	87640	88550			21	2Sc30	
22	83	7	23	11	27	10.0	4.3	67	5.2	999.4	1	007	03	8	1	2	8	5	2	1	81828	86462				22	2Sc45 /Ci75 Cu med	
23	65	2	26	16	36	12.6	7.2	69	6.4	996.9	5	002	01	8	1	2	8	5	0	0	82822					23	1Sc40 Cu fra/hum	
24	60	8	22	14	26	13.2	8.8	75	7.1	1006.2	7	014	58	6	5	8	5	4	/	/	82615	85625	88645			24		
25	83	2	23	15	28	10.2	4.4	67	5.3	998.5	6	007	15	8	1	1	8	5	6	3	81825					25	1Sc40 1Ac62 2Ci70 jpNW	
26	65	6	23	09	17	9.0	3.5	69	4.9	1001.2	7	005	15	1	1	2	8	5	7	2	81825	84070				26	2Sc40 1Ac65 1Ac68 COTRA Cu med vv40k exp jpS Parhe	
27	86	7	23	05	14	7.6	4.3	80	5.2	999.9	3	001	03	1	1	7	8	5	3	1	81820	86625				27	1Ac65 3Ci75 COTRA	
28	86	7	21	03	14	7.1	2.3	72	4.6	994.3	8	001	03	1	1	1	8	5	7	6	81825	85465	87272			28	1Sc35 1Ac63 Cu hum COTRA Halo 22° part	
29	65	7	16	07	17	6.8	5.0	88	5.6	982.6	7	013	25	8	2	4	9	4	6	3	82815	82925	85075			29	1Sc30 2Ac62 COTRA jpW vv50k ex p	
30	84	2	36	11	20	5.8	1.2	73	4.2	1003.5	2	027	01	1	1	2	8	5	0	1	81825					30	2Sc30 1Ci75 COTRA Cu hum	

Mean vis = 29.1 km

Mean cloud = 5.9 73%

Mean wind speed = 9.2 kn

Mean gust = 20 kn

Mean TT = 10.9 °C

Mean Td = 6.3 °C

Mean RH = 73.8 %

Mean r = 6.1 g/kg

Mean PPP = 1001.2 mbar

See appendix 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.

November 2009	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	12.70	16.9	1127	8.0	2203	84.5	95.2	935	66.5	1436	10.09	7.88	11.5	1129	5.5	2202	1003.10	1019.5	0	995.2	1140	9.9
2	8.43	12.6	1338	4.4	657	77.0	92.2	659	54.1	1210	4.48	5.29	6.3	0	4.6	1450	1000.11	1002.5	1105	996.3	2359	0.0
3	10.43	13.8	1412	7.3	2342	85.6	96.2	441	58.3	1523	8.02	6.93	9.1	1012	5.2	1840	988.20	996.4	0	984.2	1351	5.1
4	7.87	12.1	1251	5.5	536	83.5	92.4	1931	60.6	1244	5.18	5.64	6.4	1126	5.0	315	986.20	987.6	1015	984.5	14	0.7
5	9.70	12.6	1341	7.5	0	79.6	92.2	922	59.7	1413	6.23	6.02	7.1	939	5.3	1504	993.58	1000.0	2358	986.5	112	1.1
6	9.38	11.9	1432	7.0	2355	85.7	95.7	1900	71.1	1430	7.09	6.36	8.2	1900	5.6	2355	999.77	1003.7	943	995.0	1845	4.3
7	6.96	10.8	1252	3.0	457	81.1	95.1	522	59.8	1250	3.82	5.08	5.8	2319	4.4	450	994.88	997.0	1103	992.7	2231	0.2
8	6.17	10.3	1353	0.7	2357	92.0	97.9	2359	77.8	1604	4.92	5.46	7.1	1036	3.9	2357	1005.09	1017.4	2358	993.3	0	0.2
9	2.87	7.5	1445	-1.5	605	94.8	98.9	616	82.9	1533	2.09	4.44	5.8	1240	3.3	605	1019.23	1021.0	1002	1016.9	2359	0.1
10	5.53	8.0	1506	2.5	0	97.6	98.3	800	95.7	1516	5.18	5.52	6.4	1506	4.4	0	1012.49	1016.9	0	1009.7	2349	1.6
11	8.32	11.2	1308	6.5	120	94.3	99.0	948	84.1	1311	7.45	6.46	7.4	1308	5.9	120	1005.73	1009.7	1	998.5	2353	0.9
12	10.84	13.9	1159	5.1	742	89.8	97.1	825	76.4	1210	9.19	7.34	8.7	1942	5.2	739	999.97	1003.1	935	996.7	1906	6.5
13	11.90	15.8	2126	9.0	222	90.2	97.1	823	67.1	2126	10.28	7.89	9.5	1648	6.7	218	997.54	1000.0	435	990.9	2334	12.1
14	10.75	14.7	0	6.1	2315	77.9	91.3	128	64.2	1133	7.02	6.40	8.8	129	4.8	2249	993.66	1004.6	2336	987.1	1331	11.1
15	9.53	13.8	1338	6.7	2119	87.3	96.5	639	66.2	1345	7.44	6.47	7.6	1020	5.4	0	1004.91	1006.3	1702	1003.2	516	2.6
16	11.33	13.6	1202	9.0	222	80.2	96.4	359	56.9	1259	7.89	6.72	8.7	749	5.4	1259	1000.58	1005.6	2356	994.9	703	3.6
17	10.47	12.8	1222	7.4	743	75.7	91.2	746	56.2	1434	6.27	5.94	6.4	129	5.0	1434	1008.07	1011.0	2007	1005.0	357	0.0
18	12.97	14.0	1525	11.2	108	75.4	91.5	1345	70.2	1603	8.71	7.01	8.3	1344	6.2	8	1010.98	1014.1	2103	1007.5	720	0.1
19	13.30	14.4	1116	12.3	705	73.3	83.4	706	63.0	2341	8.61	6.95	7.6	443	5.9	2328	1011.37	1013.6	240	1008.3	2359	0.0
20	12.55	15.3	1348	5.7	2323	82.3	98.1	2335	63.8	0	9.49	7.40	8.8	1005	5.5	2323	1012.73	1020.1	2349	1006.4	413	2.4
21	12.39	15.0	1153	7.8	0	92.3	98.8	249	75.7	1357	11.15	8.25	9.3	1123	6.4	0	1012.02	1020.2	12	1004.8	2345	5.4
22	9.62	11.6	51	7.7	757	76.9	90.4	552	65.7	1556	5.73	5.79	7.3	58	4.8	2359	1001.11	1005.0	2	997.2	1233	4.9
23	10.73	14.0	1252	8.1	37	79.1	93.6	826	65.9	1517	7.20	6.45	8.6	1230	4.8	3	1000.25	1007.0	2353	995.4	1327	3.1
24	12.29	14.3	1256	8.1	203	81.2	92.5	526	67.9	1404	9.13	7.27	8.3	900	5.6	201	1005.45	1008.0	949	997.8	2359	0.7
25	9.78	13.0	0	7.9	2320	77.4	90.4	237	59.2	1307	5.95	5.91	8.3	218	5.0	1307	999.23	1002.2	2319	995.2	212	9.1
26	7.86	10.5	1253	5.8	2122	76.0	89.0	154	59.2	1250	3.84	5.05	5.9	32	4.6	2058	1000.91	1002.4	1017	998.1	2335	0.4
27	6.22	8.1	1404	4.8	2205	82.1	87.5	1644	72.7	835	3.39	4.90	5.3	1506	4.4	803	999.29	1000.7	1848	997.1	133	0.2
28	5.88	8.7	1307	2.8	509	84.5	97.7	2336	64.7	1311	3.36	4.94	6.5	2337	4.3	800	992.43	998.9	0	985.1	2349	12.5
29	6.82	9.2	52	5.4	818	91.1	97.8	32	83.4	1204	5.46	5.76	7.1	44	5.2	818	984.06	985.6	2349	982.2	1537	11.9
30	4.86	6.4	312	1.9	2356	87.0	96.8	326	71.2	1504	2.84	4.76	5.9	312	3.7	2356	999.45	1012.0	2359	985.4	6	9.2

Total																					119.9	
Mean	9.28	12.22		6.12		83.8	94.34		68.01		6.58	6.21	7.60		5.07		1001.41	1006.41		996.36		
Max	13.30	16.94		12.28		97.6	99.00		95.70		11.15	8.25	11.45		6.68		1019.23	1020.96		1016.88		
Min	2.87	6.43		-1.49		73.3	83.40		54.11		2.09	4.44	5.33		3.33		984.06	985.58		982.17		

Wokingham Automatic Weather Station
 AWS samples taken every 0.5 seconds
 x and n refer to maximum and minimum respectively

Readings taken at Wokingham Climatological Station, Emmbrook, Berkshire
Lat 51.425 N, Long 0.853 W, NGR (SU) 798701
Altitude 45 m ASL.

Tmn = 00 to 24 GMT mean air temperature at 1.2 m, deg C
 RHmn = 00-24 GMT mean relative humidity at 1.2 m, percent
 Tdmn = 00-24 GMT mean dew point at 1.2 m, deg C
 rmn = 00-24 GMT mean humidity mixing ratio, g/kg
 pmn = 00-24 GMT mean air pressure reduced to mean sea level, mbar
 Rtot = 00-24 GMT rainfall total from AWS tipping bucket raingauge, mm
 Time = hours and minutes in GMT of extreme values

WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

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

Seasonal Means and Totals

AUTUMN 2009

Temperature (°C)								Rank in the past 128 years			
Mean maximum	16.1	(+1.4)						7 th highest			
Mean minimum	8.2	(+1.5)						2 nd highest			
Daily mean	12.2	(+1.5)						2 nd highest			
Rainfall total (mm)	197.6	(104 %)						52 nd highest			
Sunshine total (hours)	346.8	(103 %)									
N ^o of:	Dry days	50 (-1)		Wet days	33 (+4)						
Days with:	Air frost	2 (-6)		Ground frost	15 (-9)		Snow falling	0 (-1)	Snow lying	0 (0)	
Thunder	1 (-2)		Hail ≥5mm	0		Small hail/ice	0	Fog @09 GMT	1 (-4)	Nil sun	9
Air pressure MSL : Mean @09 GMT (mbar)					1013.8						(-1.8)

Departure from 1971 to 2000 average shown in brackets.

Notes: **Very Mild with Rainfall and Sunshine a Little Above Normal.**

Temperature: This has been a very mild autumn, with the mean temperature 2nd highest after 2006 since before 1882. The mean maximum ranks only 7th highest, 1.6° below the record set in 2006, while the mean minimum at 1.2° below the record also set in 2006 ranks 2nd highest. If there are any doubters that temperatures are currently rising, they should note that 7 out of the 12 warmest autumns in the past 128 years have occurred since 1998. The season's highest temperature was 26.5° on the 8th Sep and is 2.0° above the median. The autumn's lowest temperature, -1.6° on the 9th Nov is 2.3° above the median. The lowest max, 6.2° on the 30th Nov, is 1.6° above the median whilst the highest min of 17.2° on the 8th Sep is 2.0° above its median. The mean grass min of 4.7° is 0.7° above average. The lowest grass min was -6.0° on the 9th Nov, about 2° above average. There were only 7.0 hours with air frost, 43.5 hours below average and fewest since 2000. The first ground frost of the season was on the 2nd Oct after 119 frost free days, while the first air frost was on the 18th Oct after 201 days without an air frost. Earth temperatures have been a little above normal. **Rainfall:**

There was a marked asymmetry in the rainfall distribution this autumn, with September being a very dry month with just over one quarter of the average rainfall, and October managing less than two thirds, so that by the start of November there had been only 59 mm of rain. November more than made up the deficit by adding a further 139 mm, taking the total for the season to 4% above the average. Compared with the past 10 years, 2006, 2002 and 2000 all had a wetter autumn than this. The wettest day was the 29th Nov when 19.5 mm fell. Two 2 day rainfall totals are worthy of mention, the 12th/13th Nov when 31.4 mm fell and the 28th/29th Nov when 36.4 mm fell. There were 3 dry spells, the first of 11 days ended on the 14th Sep, then one of 14 days ended on the 29th Sep and lastly one of 8 days ended on the 19th Oct. There were 127.6 hours with measurable rain, 25 fewer than average. The highest rainfall rate was 85 mm/hr on the 25th Nov. Thunder was less frequent than average and was recorded on just one day, the 29th Oct, and hail was completely absent. **Sunshine:** There were no sunshine records broken this autumn. It was sunnier than the autumn of 2008, but only by 24 hours. September was the sunniest month, both in real terms and percentage wise, with 111 % of average, while October fared worst with just 89 %. The sunniest day was the 25th Sep which had 11.3 hours, and the 4 days around that date produced the sunniest period with an average of 10.1 hours per day. Overall there were 47 days with <3 hours, 26 with =>6 hours and 10 with =>9 hours. **Wind:** The mean wind speed this autumn was 6.8 mph, 0.7 mph above average and equal highest with 2000 since 1992. The windiest month was November, mean 9.0 mph, and the windiest day was the 18th Nov, mean 15.0 mph. The highest gust was 59 mph on the 14th Nov, and this is the highest autumn gust since 2002. Overall there were 2729 minutes (45.48 hours) with a mean speed of 0.5 mph or less. Daily mean direction/number of days: N,11 NE,8 E,2 SE,10 S,7 SW,35 W,14 NW,4. Compared with average, S'ly and E'ly winds together were 14.8 % less frequent while SE'ly and SW'ly winds together were 12.1 % more frequent. **Humidity:** The overall mean relative humidity was 80.6%. The lowest value recorded this autumn was 37 % on both the 4th Sep and 4th Oct. The mean water vapour content per kg of air was 7.3 g at 0900 and 6.9 g at 1500 GMT.

September: Warm and dry with above average sunshine. Lowest max 5th highest and highest min 7th highest in the past 97 years. Driest since 2003. Mean pressure highest since 1986.

October: Mild with rainfall and sunshine below normal. Lowest max 7th highest in 97 years.

November: Very mild, very wet, sunshine above normal, windy. Mean max 6th highest, mean min and daily mean 2nd highest in 128 years. Mildest since 1994. Duration of air frost lowest since 2002. Rainfall 7th highest in 128 years. Number of dry days equal lowest with 2002 since before 1976. Mean wind speed equal highest with 1992 since before 1988. Highest gust a new record for the month.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Wind Mn mph	Max gust	Mean pressure	Anom
Sep	20.0	+1.1	9.8	+0.1	17.2	27 %	159.8	111 %	6.2	38	1022.9	+6.4
Oct	16.1	+1.3	8.0	+1.3	41.7	62 %	102.0	89 %	5.3	33	1017.0	+1.8
Nov	12.3	+1.8	6.6	+2.9	138.7	227 %	85.0	105 %	9.0	59	1001.5	-13.7

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

3 Dec 2009

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.