

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

JULY 2009

Temperature (°C / °F)			Anomaly	Rank in the past 128 years			
Mean maximum	21.9	71.4	-0.6	55 th highest			
Mean minimum	12.9	55.2	+0.6	11 th highest			
Daily mean	17.4	63.3	0.0	38 th highest			
Highest maximum	31.0	87.8	on 1 st	Lowest maximum	19.1	66.4	on 9 th
Highest minimum	17.9	64.2	on 1 st	Lowest minimum	9.2	48.6	on 10 th
Mean grass minimum	10.0	50.0	+0.3	Lowest grass minimum	3.3	37.9	on 9 th
Mean earth @30 cm	18.4	65.1	0.0	Earth @100 cm	16.6	61.9	
Frost duration (hrs)	0.0			Rain duration (hrs)	40.1		
Rainfall total (mm / in)	63.3	2.49	153 %	44 th highest			
Highest daily fall	8.6	0.34	on 11 th				
Number of: Dry days (<0.2mm)	9	Wet days (>0.9mm)	15	days ≥5mm	3		
Sunshine total (hrs)	157.0	Daily mean	5.06	80 %	Sunniest day	11.7	on 2 nd
N° days with: Air frost	0	Ground frost	0	Snow falling	0	Snow lying	0
Thunder	5	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0
Air pressure MSL : Mean @09 GMT (mbar/in)			1012.6	-4.8	29.90		
Absolute highest			1024.0		30.24	on 30 th	
Absolute lowest			1000.9		29.56	on 23 rd	

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

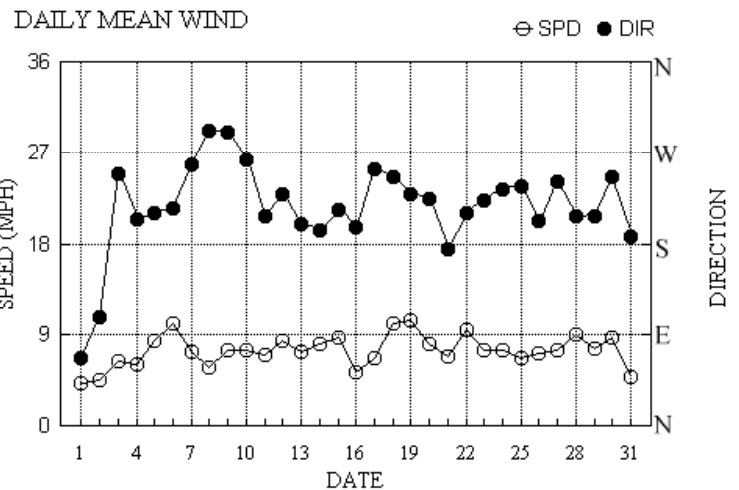
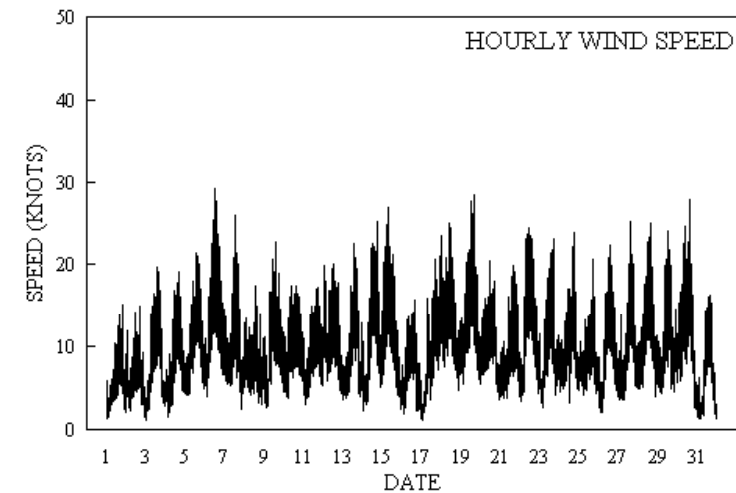
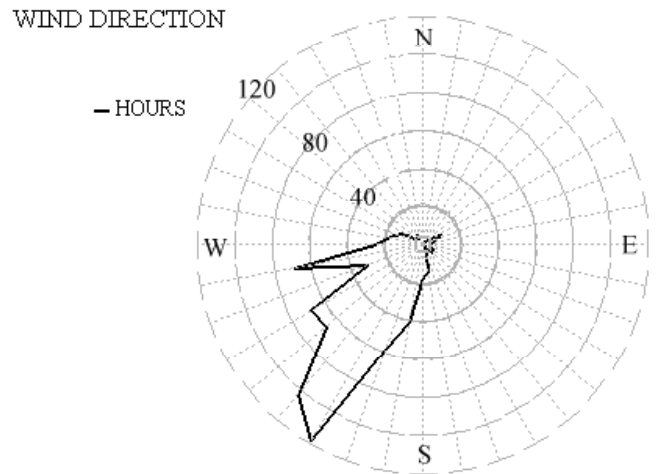
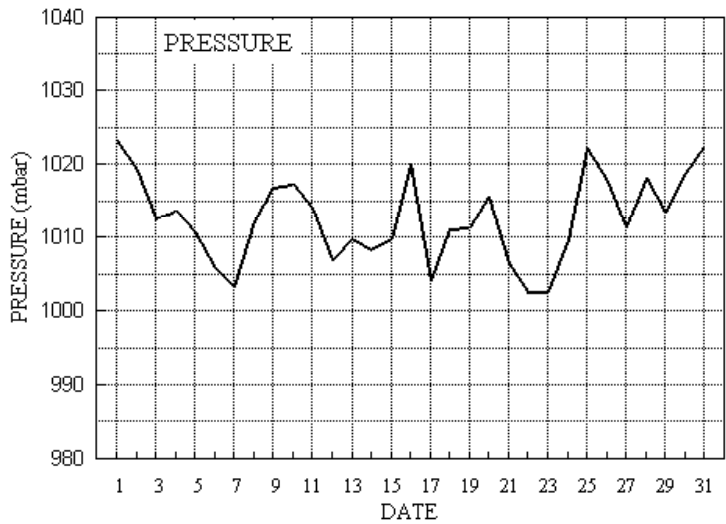
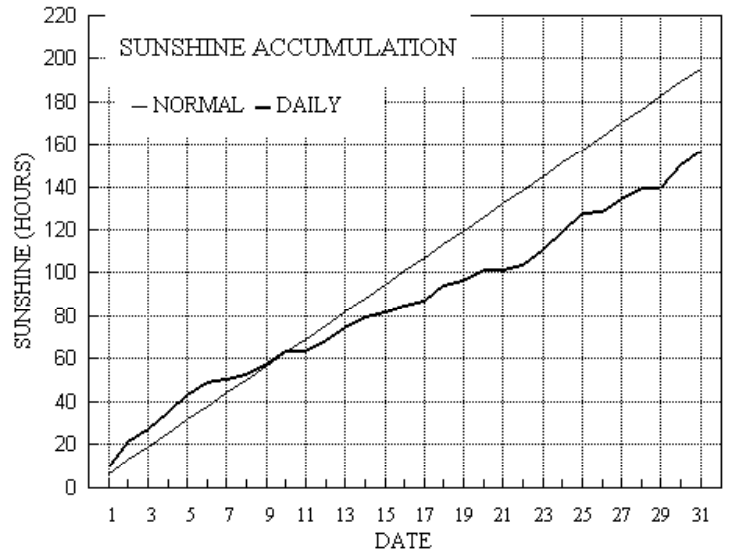
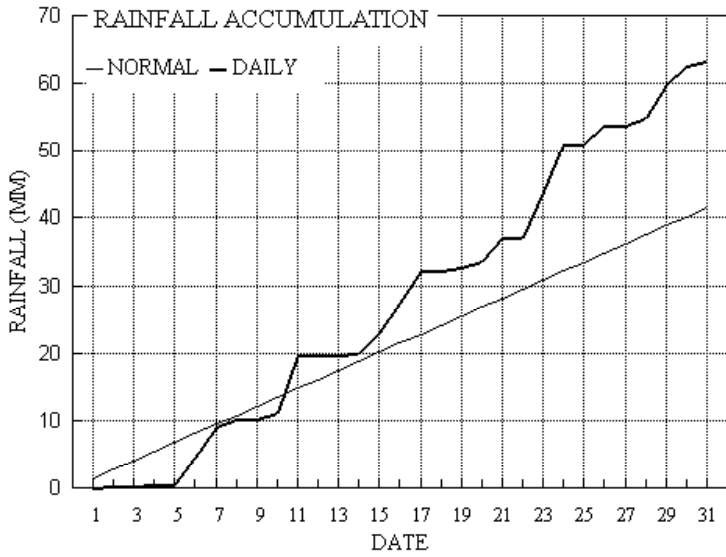
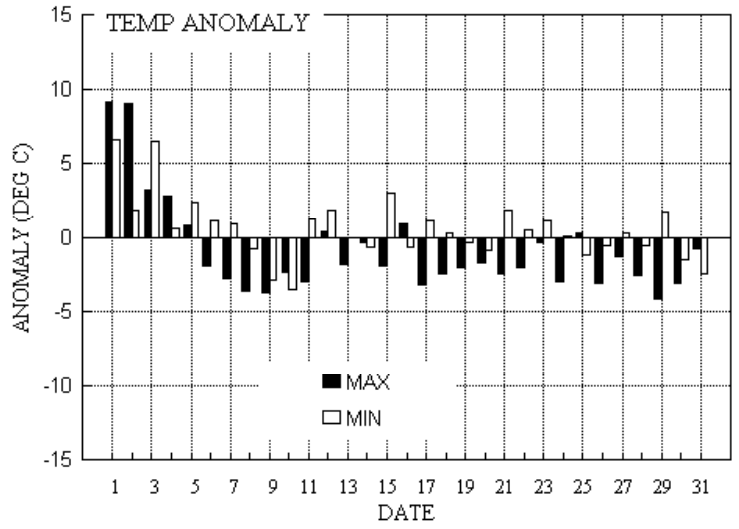
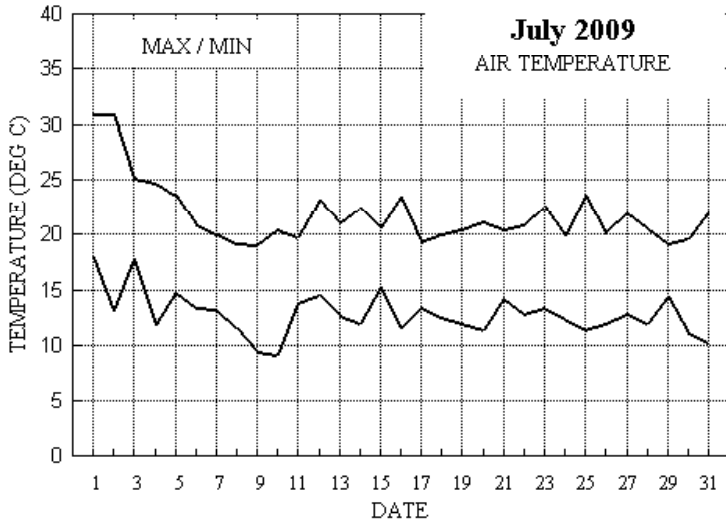
Notes: **Above Normal Rainfall and Dull. Temperature in the Warm category, but maxima below normal for much of the month.**

Temperature: Although the headline category is warm, the mean temperature exactly equals the 1971 to 2000 climatological average. The disparity highlights the extent of warming in recent years, where the current 30 year climatological average is 0.7° above the 128 year median. The difference in the anomalies for mean max and min show that days were relatively cool and nights relatively mild. The highest max is 2.6° above the median, and is highest for July since 2006. The lowest max is 2.3° above the median and the highest min is 1.6° above its median. The lowest min is 2.2° above its median and is highest since 1994 and 3rd highest in over 100 years. Earth temperatures are close to normal. **Rainfall:** Although there has been plenty of rain this July, with only 9 dry days, 11 fewer than average and least since 1988, the total fall is lowest in the past 3 years, and is over 8 mm less than would put the month into the wet category. As is typical with summer rainfall, there were plenty of intense but brief showers, but the highest daily total of 8.6 mm is lowest since 1998, and the number of days with 5 mm or more is only average. There were 5 days having rainfall rates above 50 mm/hr, and the maximum of 85 mm/hr was recorded on both the 15th and 24th. Thunder was nearly twice as frequent as average. **Sunshine:** This has been a dull July, with the daily mean lowest since 2002. The month's highest daily total is lowest since 1998. Overall there were 11 days with <3 hours, 12 with =>6 hours and 4 with =>9 hours. **Wind:** This has been a windy July, the mean speed of 7.4 mph being highest since 1993 and 1.1 mph above average. However, the 10.5 mph mean speed on the 19th, the month's windiest day, is 0.8 mph below average. The highest gusts of 33 mph were on the 6th and 19th. The 1st was the least windy day, mean 4.1 mph, and there were only 172 minutes, (2.87 hrs), with a mean speed of 0.5 mph or less, lowest for any month since March 2006. Daily mean direction/number of days: N,0 NE,1 E,1 SE,0 S,5 SW,18 W,6 NW,0. **Humidity:** The overall mean relative humidity was 69.7 %, and a minimum value of 25 % was recorded on the 1st. The mean water vapour content per kg of air was 8.4 g at 0900 GMT and 7.6 g at 1500 GMT. **Commentary: From the 1st to the 5th :** The heatwave that began on the 28th June continued for the first 2 days of July, after which temperatures dropped back to normal by the 5th. Anomalies for daily maxima were +9° on the 1st and 2nd, the 31.0° on the 1st being the highest temperature since the 26th July 2006. Only 0.4 mm of rain fell in this period, and it was fairly sunny, especially on the 1st and 2nd. Light E'ly winds became moderate SW'ly on the 3rd. **From the 6th to the 31st :** This period was characterized by near or below normal daily maxima and minima, with generally little variation from day to day. Anomalies for daily max ranged from -4.1° on the 29th to +0.9° on the 16th, and for min, -3.5° on the 10th to +3.0° on the 15th. Rainfall was much in evidence, mostly in the form of showers, and there were only 5 dry days out of the 26. The showers were sometimes heavy, especially on the 6th, 7th, 15th, 17th, 21st, 23rd, 24th and 29th, with thunder on the 6th, 7th, 14th, 17th and 24th, although daily rainfall amounts were never very large. Sunshine was generally poor, with >50 % of the maximum on only the 25th and 30th, while 11 days had <20 %. Winds were mostly moderate SW'ly or W'ly, but fresh on the 6th, 15th, 19th, 22nd and 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 31 st			
+1.1	+1.3	82 %	102 %	-1.5	+0.5	172 %	48 %	-2.0	-0.1	201 %	79 %

Wokingham climatological graphs for July 2009



Month: July 2009

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff HH	Rain hrs		
1	31.0	17.9	0.0	16.2	19.6	16.0	10.2	0.0	1023.1	0 0 0 0	0 0 0 0	0 0 0 0	66	3.4	3.6	76 15 1911	60 6 16	0.0	
2	30.9	13.2	0.3	8.9	19.8	16.2	11.7	0.0	1019.1	0 0 0 0	0 0 0 0	0 0 0 0	107	2.8	3.9	91 15 1611	142 6 16	0.5	
3	25.1	17.8	0.0	14.0	20.2	16.4	5.7	0.0	1012.7	0 0 0 0	0 0 0 0	0 0 0 0	249	4.9	5.5	282 20 1433	266 9 15	0.0	
4	24.7	11.9	0.1	6.6	19.6	16.6	7.6	0.0	1013.7	0 0 0 0	0 0 0 0	0 0 0 0	204	5.1	5.2	197 19 1654	196 9 15	0.1	
5	23.6	14.8	0.1	12.2	19.5	16.8	8.3	0.0	1010.7	0 0 0 0	0 0 0 0	0 0 0 0	211	7.1	7.2	240 22 1325	220 11 13	0.1	
6	20.9	13.5	3.9	9.8	19.3	16.8	6.0	0.0	1005.8	0 0 0 0	1 0 0 0	0 0 0 0	215	8.6	8.8	199 29 1245	215 14 13	1.7	
7	20.0	13.3	4.6	11.4	18.9	16.9	1.5	0.0	1003.2	0 0 0 0	1 0 0 0	0 0 0 0	259	5.8	6.2	264 26 1326	284 10 13	2.5	
8	19.2	11.6	1.1	9.1	18.6	16.9	1.8	0.0	1012.1	0 0 0 0	0 0 0 0	0 0 0 0	292	4.4	5.0	317 18 1346	263 7 01	0.6	
9	19.1	9.5	0.0	3.3	18.3	16.8	5.6	0.0	1016.8	0 0 0 0	0 0 0 0	0 0 0 0	291	6.2	6.4	296 23 1544	294 9 15	0.0	
10	20.5	9.2	0.9	4.2	17.9	16.8	5.7	0.0	1017.3	0 0 0 0	0 0 0 0	0 0 0 0	263	6.1	6.4	302 18 0918	255 8 18	2.5	
11	19.8	13.9	8.6	13.2	17.9	16.7	0.1	0.0	1014.1	0 0 0 0	0 0 0 0	0 0 0 0	208	5.9	6.0	200 17 1819	208 8 16	7.3	
12	23.2	14.6	tr	14.0	18.0	16.6	5.1	0.0	1006.8	0 0 0 0	0 0 0 0	0 0 0 0	229	6.7	7.3	232 20 1351	199 9 01	0.0	
13	21.0	12.7	0.2	10.0	18.4	16.6	5.4	0.0	1009.9	0 0 0 0	0 0 0 0	0 0 0 0	200	6.3	6.4	179 23 1303	209 11 16	0.4	
14	22.5	12.0	0.1	7.8	18.1	16.6	5.6	0.0	1008.4	0 0 0 0	1 0 0 0	0 0 0 0	194	6.7	7.0	231 25 1740	209 12 13	0.1	
15	20.6	15.3	3.0	13.4	18.3	16.6	2.0	0.0	1009.8	0 0 0 0	0 0 0 0	0 0 0 0	214	7.1	7.5	232 27 0744	215 13 08	0.9	
16	23.4	11.6	4.5	7.3	18.1	16.6	2.9	0.0	1020.1	0 0 0 0	0 0 0 0	0 0 0 0	197	3.5	4.6	151 16 1536	173 8 15	2.3	
17	19.3	13.4	4.7	9.9	18.4	16.6	2.2	0.0	1004.1	0 0 0 0	1 0 0 0	0 0 0 0	253	5.0	5.7	263 22 2327	258 11 23	2.7	
18	20.1	12.6	0.2	11.2	18.0	16.7	6.9	0.0	1011.2	0 0 0 0	0 0 0 0	0 0 0 0	246	8.5	8.7	265 25 1042	255 12 10	0.3	
19	20.5	12.0	0.3	10.2	18.0	16.6	2.2	0.0	1011.4	0 0 0 0	0 0 0 0	0 0 0 0	229	9.0	9.1	228 29 1603	228 14 13	0.2	
20	21.2	11.5	1.1	8.7	17.7	16.6	5.3	0.0	1015.6	0 0 0 0	0 0 0 0	0 0 0 0	224	6.7	6.9	225 21 1230	230 9 12	1.4	
21	20.5	14.3	3.3	13.0	18.1	16.6	0.0	0.0	1006.4	0 0 0 0	0 0 0 0	0 0 0 0	175	4.8	6.0	195 20 1611	189 9 17	2.0	
22	20.9	12.9	0.0	8.3	17.9	16.6	2.4	0.0	1002.7	0 0 0 0	0 0 0 0	0 0 0 0	211	8.1	8.1	226 25 1004	217 12 09	0.0	
23	22.6	13.5	6.8	11.3	17.9	16.6	7.0	0.0	1002.7	0 0 0 0	0 0 0 0	0 0 0 0	222	6.1	6.5	260 23 1736	208 10 13	1.6	
24	19.9	12.5	7.1	10.7	18.1	16.6	7.8	0.0	1009.7	0 0 0 0	1 0 0 0	0 0 0 0	233	6.1	6.4	256 24 1749	250 11 16	0.8	
25	23.6	11.4	0.0	8.9	18.0	16.6	9.1	0.0	1022.1	0 0 0 0	0 0 0 0	0 0 0 0	236	5.4	5.7	208 21 1640	211 9 16	0.0	
26	20.2	12.0	2.8	7.8	18.3	16.6	0.4	0.0	1017.7	0 0 0 0	0 0 0 0	0 0 0 0	203	6.1	6.2	216 23 1318	204 10 14	6.3	
27	22.0	12.9	0.2	12.2	18.2	16.6	6.2	0.0	1011.3	0 0 0 0	0 0 0 0	0 0 0 0	241	6.2	6.4	265 25 1411	253 11 14	0.6	
28	20.7	12.0	1.1	10.0	18.2	16.6	4.9	0.0	1018.1	0 0 0 0	0 0 0 0	0 0 0 0	208	7.7	7.8	207 25 1542	204 12 13	1.5	
29	19.2	14.4	4.8	13.2	18.2	16.7	0.3	0.0	1013.4	0 0 0 0	0 0 0 0	0 0 0 0	207	6.2	6.6	213 24 1303	208 11 15	1.8	
30	19.7	11.2	2.8	8.4	17.8	16.7	10.9	0.0	1018.8	0 0 0 0	0 0 0 0	0 0 0 0	246	7.3	7.5	264 28 1416	257 12 15	0.8	
31	22.0	10.3	0.7	5.2	17.7	16.6	6.2	0.0	1022.3	0 0 0 0	0 0 0 0	0 0 0 0	187	4.1	4.2	195 16 1529	190 8 15	1.1	
Total			63.3				157.0	0.0						224	5.1	6.4			40.1
Mean	21.9	12.9		10.0	18.4	16.6	5.06	0.0	1012.6										
Anom	-0.6	+0.6	153%		+0.0	-0.2	80%												
Daily mean		17.4																	
Anom		-0.0																	

Number of days with:

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

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Anom = Departure from 1971-2000 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for July 2009

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NCh	shs	NCh	shs	Date	Remarks							
1	62	4	05	04	07	23.1	12.8	52	9.1	1023.1	2	001	01	1	1	3	0	9	8	1	81360	83363			1	1	Ci80	COTRA	Ac	cas				
2	59	2	11	04	11	23.8	14.8	57	10.4	1019.1	8	006	05	1	1	0	0	9	0	1	82080				2									
3	78	7	22	09	15	19.4	15.6	79	11.1	1012.7	3	005	01	2	2	7	5	4	/	/	86615	87635			3									
4	82	5	20	04	08	20.7	10.9	54	8.0	1013.7	8	007	03	4	1	5	5	6	0	1	81635	85645			4	1	Ci80	COTRA						
5	82	7	20	07	15	19.9	11.8	60	8.5	1010.7	4	000	03	2	2	4	8	5	3	/	83825	87358			5	2	Sc50	Cu	med					
6	80	7	20	10	23	18.6	10.0	57	7.9	1005.8	8	008	15	2	2	6	9	5	3	/	81920	83825	83650		6	2	Ac63	jpS	vv50k	ex p				
7	65	7	25	07	13	17.4	12.0	71	8.7	1003.2	0	002	80	8	2	6	9	5	6	3	81920	82825	85078		7	2	Ac40	2Ac58	1Ci72	COTRA vv50k ex p				
8	82	8	27	05	11	15.2	9.8	70	7.6	1012.1	2	012	02	2	2	8	8	5	/	/	82820	85630	88650		8		Cu	hum	med					
9	86	3	31	07	16	15.8	5.2	49	5.5	1016.8	1	001	03	1	1	3	8	6	0	0	82838				9	1	Sc45	2Sc56	Cu	med				
10	86	2	29	06	16	17.5	4.8	43	5.3	1017.3	0	000	03	0	0	2	8	6	0	1	82835				10	1	Sc50	1Ci80	Cu	hum/med				
11	82	7	21	05	11	17.8	14.3	80	10.1	1014.1	7	006	20	5	2	7	5	4	/	/	81712	87615	87620		11	vv	falls	to	5000m	in	dz			
12	80	7	26	08	16	18.3	11.4	64	8.4	1006.8	2	012	15	2	2	7	8	5	/	/	81820	83825	87640		12		Cu	med	jp	NW				
13	84	6	21	07	11	18.0	11.0	63	8.2	1009.9	8	005	03	2	2	5	8	5	3	0	85820				13	1	Sc35	2Ac59	Cu	con				
14	70	7	17	06	12	18.6	12.4	67	8.9	1008.4	7	006	15	2	2	6	8	5	7	/	83822	85656			14	2	Sc40	/Ac58	/Ac65	Cu	med/con	jp	NW	
15	75	7	22	13	25	18.8	11.8	64	8.6	1009.8	2	019	15	8	1	7	8	5	/	/	85825	83640			15		Cu	med	jp	SW				
16	78	7	21	06	14	18.6	12.3	67	8.5	1020.1	8	001	03	2	2	2	2	5	7	2	82825	85070			16	2	Ac65	2Ac68	Cu	med				
17	80	7	22	06	14	15.7	11.0	73	8.1	1004.1	1	007	15	8	2	7	9	4	/	1	81915	83640			17	2	Cu20	2Sc56	/Ci75	Cu	fra	CbN	vv60k	exN
18	82	2	26	11	19	17.2	8.3	56	6.8	1011.2	0	006	03	0	0	1	2	6	3	1	81835				18	1	Ac65	1Ci75	Absent	18&19	vv&cld	est		
19	75	7	24	09	20	16.5	9.8	64	7.5	1011.4	1	003	25	8	2	7	8	5	/	/	81825	87656			19	2	Sc45							
20	78	4	25	06	15	18.0	11.3	65	8.5	1015.6	1	010	03	0	0	2	2	5	3	4	82826	83075			20	1	Ac57	COTRA	Cu	med				
21	60	8	12	04	10	17.7	15.0	84	10.6	1006.4	7	022	05	6	2	7	5	4	7	/	82712	86615	88359		21									
22	75	7	21	12	21	17.6	12.3	71	9.0	1002.7	2	001	15	1	1	4	8	5	0	2	82825	83645	87078		22	Absent	22-28	vv,cld&wx	est					
23	75	5	23	08	16	18.0	10.5	62	8.0	1002.7	2	008	15	1	1	4	8	5	3	0	82825	83640			23	2	Ac65							
24	70	7	25	05	14	14.7	12.4	86	8.9	1009.7	1	007	80	8	2	7	8	4	/	/	84818	87650			24									
25	80	3	22	04	11	17.9	11.5	66	8.4	1022.1	2	014	03	0	0	2	1	5	0	1	82825				25	2	Ci75							
26	75	7	20	08	15	19.0	13.1	69	9.3	1017.7	7	018	01	2	2	7	8	4	/	8	83818	85625	87275		26									
27	62	8	23	05	12	13.9	11.9	88	8.7	1011.3	4	000	61	6	6	8	5	4	/	/	81712	88656			27									
28	81	7	23	09	18	18.2	9.4	56	7.3	1018.1	2	001	03	1	1	3	8	5	0	1	83825	87075			28	1	Sc45							
29	75	8	19	07	14	16.5	12.7	79	9.1	1013.4	8	007	60	6	2	6	8	4	7	/	81818	85656	88358		29	2	Sc35	Cu	hum					
30	82	5	26	11	23	16.1	8.9	62	7.2	1018.8	2	018	03	1	1	3	8	5	0	3	83825				30	1	Sc45	1Ci70	2Ci78	COTRA	Cb	top	W	
31	82	7	17	04	08	17.5	8.5	55	7.1	1022.3	7	009	03	2	2	1	2	6	3	1	81830	87359			31	/	Ci78	COTRA	Cu	med				

Mean vis = 30.2 km

Mean cloud = 6.0 75%

Mean wind speed = 7.0 kn

Mean gust = 15 kn

Mean TT = 17.9 °C

Mean TdTd = 11.2 °C

Mean RH = 65.6 %

Mean r = 8.4 g/kg

Mean PPP = 1012.6 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.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for July 2009

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChshs	Date	Remarks
1	81	2	10	04	13	30.6	9.8	28	7.4	1021.2	8	012	02	1	1	1	1	8	8	1				1	1Ac60 1Ac64 2Ci80 COTRA Cu hum
2	66	3	15	05	11	30.0	11.2	31	8.1	1015.0	7	021	02	0	0	3	2	7	0	0				2	Cu med
3	86	3	26	08	19	25.1	10.0	39	7.6	1012.5	6	009	01	1	1	3	2	7	6	0				3	1Ac58 Cu med
4	80	5	19	10	18	23.9	10.2	42	7.7	1011.9	7	016	02	1	1	2	2	6	4	1				4	2Ac57 COTRA Cu hum/med
5	86	4	21	10	21	22.8	6.8	36	6.2	1009.2	7	006	01	1	1	3	2	7	0	2				5	2Ci75 Cu hum/med
6	70	7	22	10	26	17.0	12.1	73	8.8	1003.3	6	009	25	8	2	7	9	5	/	3				6	2Ci75 jp all quads vv50k ex p
7	62	7	27	09	17	17.8	12.7	72	9.3	1004.0	1	006	80	9	8	4	9	5	6	3				7	1Sc50 3Ac62 vv50k ex p
8	82	7	31	07	13	16.9	11.5	71	8.5	1013.5	2	009	25	8	2	3	8	5	7	/				8	Cu med
9	84	6	30	07	17	17.6	4.2	41	5.2	1016.0	6	005	02	2	2	6	8	7	3	/				9	2Ac65 Cu hum
10	84	7	26	08	17	19.8	6.6	42	6.0	1016.2	8	008	03	1	1	1	2	6	7	6				10	2Ac57 2As68 Cu med
11	65	8	20	09	14	18.4	14.3	77	10.1	1012.6	7	011	15	6	2	8	5	4	/	/				11	jpNW vv30k ex p
12	75	7	26	09	18	20.6	10.3	51	7.9	1007.6	3	006	15	2	2	7	8	6	/	/				12	Cu med jpS vv60k ex p
13	65	6	20	08	20	17.9	12.3	69	8.9	1008.6	5	002	80	8	2	6	8	5	/	/				13	2Cu35 1Sc45 Cu med vv40k exN
14	82	3	21	12	22	22.1	7.7	39	6.5	1007.8	4	000	02	1	1	2	2	6	4	0				14	2Ac58 Cu med
15	65	7	24	07	19	17.7	15.1	85	10.7	1014.4	2	022	25	8	2	6	8	5	6	1				15	2Cu25 3Sc56 3Ac58 /Ci75 Cu con jpE vv30k exE
16	80	7	18	06	13	22.0	9.3	44	7.4	1015.6	7	027	03	8	2	2	8	6	7	/				16	1Sc50 Cu med
17	50	8	27	08	17	15.3	13.5	89	9.7	1004.8	2	009	81	9	8	7	9	4	/	/				17	
18	82	7	26	11	21	18.7	7.3	47	6.4	1010.7	8	007	02	2	2	2	8	6	7	/				18	2Sc56 Absent 18&19 vv&cld est
19	75	7	22	12	26	18.7	8.2	50	6.7	1010.2	8	001	02	8	2	7	8	6	/	/				19	2Sc45
20	82	7	23	08	16	19.7	7.7	46	6.5	1014.9	8	010	03	2	2	2	8	6	7	/				20	1Sc56 Cu med
21	70	8	19	07	19	17.8	12.8	73	9.2	1004.6	8	005	60	6	2	7	5	5	7	/				21	Absent 21-28 vv,cld&wx est
22	80	6	22	11	23	20.1	10.4	53	7.9	1003.1	0	002	03	2	2	6	8	6	3	2				22	2Ac65 /Ci72
23	80	5	22	08	22	21.3	7.6	41	6.5	1003.8	1	005	15	1	1	5	9	6	0	3				23	1Ci72
24	82	6	24	08	16	18.0	11.4	65	8.4	1011.1	1	010	02	9	1	3	9	5	6	3				24	/Ac65
25	82	4	23	07	14	22.1	8.7	42	6.9	1022.0	8	003	02	1	1	3	2	7	0	1				25	2Ci75
26	80	8	21	10	21	18.7	10.3	58	7.7	1015.9	7	010	21	6	2	5	8	5	7	/				26	2Ac58
27	81	4	24	10	25	20.6	8.5	46	6.9	1011.9	3	007	02	1	1	4	8	6	3	0				27	1Ac58
28	81	6	22	11	21	19.9	8.2	47	6.7	1016.8	6	004	02	2	2	4	8	6	6	1				28	3Ac58 2Ci75
29	75	7	20	08	19	17.9	12.1	68	8.7	1010.4	7	016	60	6	2	6	8	5	7	/				29	Cu med
30	86	2	26	11	25	19.0	5.3	40	5.4	1020.4	6	002	15	8	1	2	9	6	0	2				30	1Ci75 jp NW&N
31	86	2	19	08	14	21.3	5.7	36	5.5	1018.6	7	019	01	1	1	1	1	7	4	1				31	1Ac58 1Ac60 2Ci75 COTRA Cu hum Ac len

Mean vis = 33.2 km

Mean cloud = 5.7 71%

Mean wind speed = 8.6 kn

Mean gust = 19 kn

Mean TT = 20.3 °C

Mean Td = 9.7 °C

Mean RH = 52.9 %

Mean r = 7.6 g/kg

Mean PPP = 1011.9 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

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.

July 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	23.29	31.1	1504	15.1	2358	50.5	79.5	341	25.2	1452	11.37	8.32	10.5	944	6.4	2115	1022.08	1023.3	808	1020.0	1823	0.0
2	22.49	31.0	1543	13.4	401	60.0	91.8	450	28.8	1543	13.29	9.46	11.8	1234	7.5	12	1017.14	1021.8	10	1013.5	1614	0.0
3	20.33	25.5	1451	15.1	2320	64.1	88.4	712	32.4	1628	12.65	9.21	12.0	315	6.2	1628	1013.01	1014.7	2249	1011.4	351	0.2
4	18.67	25.1	1543	11.8	340	66.4	93.9	613	39.2	1532	11.61	8.48	10.2	725	7.1	939	1012.89	1014.6	630	1010.8	1704	0.1
5	18.66	24.0	1446	14.6	2326	62.3	85.6	252	32.7	1542	10.63	8.03	10.3	1048	5.7	1513	1009.82	1012.1	28	1008.2	1713	0.1
6	16.47	21.1	1316	13.5	326	73.2	89.9	2321	42.5	1317	11.43	8.45	10.6	1119	6.6	1317	1005.08	1008.5	2	1002.8	1748	3.5
7	15.61	20.3	1253	13.1	352	81.0	91.8	2131	54.1	1252	12.26	8.92	10.6	1521	7.7	1049	1004.74	1009.5	2359	1002.8	1256	4.5
8	15.35	19.3	1151	11.5	338	69.9	86.1	0	50.9	1812	9.74	7.49	9.4	1422	6.1	2359	1012.67	1016.2	2355	1009.3	3	1.2
9	15.02	19.3	1538	9.0	338	54.0	78.8	339	35.3	1517	5.47	5.58	6.6	825	4.6	1154	1016.38	1017.0	745	1015.6	1639	0.0
10	15.71	20.6	1327	9.3	341	61.2	86.0	2354	37.4	1015	7.65	6.55	9.0	2055	4.9	1009	1016.74	1017.5	843	1015.7	1715	0.1
11	16.18	19.8	1226	13.8	302	86.4	93.0	416	73.7	1013	13.88	9.84	11.6	1128	8.6	10	1013.21	1016.8	6	1007.9	2342	7.2
12	17.79	23.3	1350	14.0	2350	69.6	93.3	519	39.3	1353	11.74	8.63	10.6	605	6.8	1701	1007.47	1010.3	2357	1005.0	449	1.3
13	16.90	21.1	1553	12.5	336	69.4	90.5	331	42.3	1700	10.91	8.14	10.8	1216	6.4	1725	1009.02	1010.5	551	1007.5	1728	0.4
14	17.48	22.7	1250	12.0	418	67.7	92.9	440	36.3	1409	10.80	8.11	9.8	654	6.1	1412	1008.13	1009.1	514	1007.3	1357	0.0
15	17.08	20.6	1234	12.0	2338	73.9	91.5	2345	55.1	1246	12.30	8.89	11.1	1356	7.8	2338	1012.44	1019.3	2344	1007.2	425	3.1
16	17.16	23.7	1424	11.3	318	71.3	94.0	403	39.0	1424	11.22	8.27	9.9	2203	6.5	1639	1016.46	1020.6	711	1007.6	2359	3.7
17	15.06	19.3	1016	13.2	26	83.7	94.7	505	52.5	1016	12.23	8.92	10.7	634	7.1	1007	1005.61	1009.5	2357	1003.2	608	4.5
18	15.63	20.1	1254	12.6	432	66.8	84.5	2109	39.9	1153	9.17	7.24	8.8	1705	5.3	1114	1010.74	1011.7	1033	1009.1	9	0.1
19	15.65	20.5	1334	12.0	237	72.4	89.0	329	45.1	1336	10.40	7.84	9.2	1759	6.4	1442	1011.04	1013.5	2358	1009.8	1543	0.4
20	16.19	21.2	1223	11.5	308	67.0	90.1	311	38.8	1222	9.60	7.41	9.2	838	5.8	1138	1014.62	1015.9	947	1013.0	2359	0.0
21	16.62	20.7	1102	14.1	118	83.1	92.3	541	58.7	1402	13.67	9.78	11.5	931	8.0	0	1006.38	1013.2	0	1002.4	2358	4.3
22	16.87	21.1	1255	12.8	324	72.2	92.1	210	49.1	1332	11.60	8.56	9.6	0	7.3	1339	1002.48	1003.3	1400	1001.3	2330	0.1
23	16.50	23.0	1414	13.5	2323	73.7	89.3	2054	36.9	1449	11.39	8.44	10.4	959	6.2	1452	1004.13	1008.8	2253	1000.9	415	5.3
24	15.73	20.0	1223	12.4	446	75.1	91.5	448	45.6	1738	11.06	8.21	10.2	1406	6.3	1738	1011.29	1017.7	2359	1008.2	217	7.7
25	17.07	23.9	1440	11.4	412	68.0	92.0	500	35.7	1535	10.53	7.83	9.2	721	6.1	1518	1021.35	1023.0	2156	1017.5	0	0.1
26	16.08	20.4	1008	11.8	214	76.6	93.6	441	52.0	1010	11.68	8.49	9.6	857	7.3	1028	1017.05	1021.9	30	1012.0	2358	0.6
27	16.26	22.2	1414	12.7	521	70.4	92.7	356	36.4	1658	10.25	7.83	10.1	1017	5.2	1751	1012.50	1016.7	2359	1010.4	333	2.3
28	16.48	21.0	1326	11.9	240	65.2	88.0	453	43.1	1348	9.60	7.38	8.6	719	6.4	1510	1017.22	1018.4	853	1016.0	2353	0.0
29	15.89	19.3	1049	12.2	2355	77.7	91.8	2359	53.3	1100	11.87	8.64	9.9	1627	7.2	1100	1012.30	1016.2	0	1008.6	1830	5.5
30	14.60	19.9	1522	10.6	2140	69.2	92.0	11	36.8	1537	8.49	6.89	8.8	1244	5.1	1537	1019.40	1024.0	2304	1012.6	1	2.9
31	16.25	22.0	1406	10.1	418	59.9	88.2	2359	31.1	1352	7.78	6.53	8.7	2351	4.9	1352	1019.98	1023.9	8	1014.2	2351	0.2
Total																						59.4
Mean	16.94	22.03		12.40		69.7	89.96		42.55		10.85	8.14	9.97		6.43		1012.37	1015.47		1009.41		
Max	23.29	31.10		15.13		86.4	94.70		73.70		13.88	9.84	11.98		8.59		1022.08	1023.96		1020.05		
Min	14.60	19.26		8.99		50.5	78.80		25.23		5.47	5.58	6.55		4.58		1002.48	1003.34		1000.90		

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

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

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

Appendix 1.

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

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

For sunshine, there was a change in instrument used to detect sunshine amount in July 1999, and the data produced by the new instrument is not strictly comparable with that obtained prior to July 1999, 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 of instrument, due to a combination of faster reaction and higher sensitivity than the old type. Thus the average used in this case is for a theoretical equivalent average for the 1971 to 2000 climatological period for this new instrument, based on comparisons with Met Office published tables of departure from the 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 the 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 "half (max+min)". A true daily 24 hour (00 to 24 GMT) mean temperature is available from the AWS, and is currently published on page 7 of the Wokingham Monthly Weather Report on the Wokingham Weather Web Site, page1. <http://www.woksat.info/wwp1.html>

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

- a): The departure of a mean from the current climatological average.
- b): The departure of a value from the a long-term average for a particular day.

When the word anomaly is used in respect to temperature, any values given are in degrees C. In respect to rainfall, percent. In respect of sunshine, percent. In respect to wind, mph. In respect to 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 mild/cold are used in the winter half year, and warm/cool in the summer half.

The term normal is defined as being 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 for sunshine follow the same rules as for temperature.

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

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

The term wet is used for values lying between 10% and 30% below the highest value in the ranked series.

the term very wet is used for values lying within 10% of the highest value in the ranked series.

The term dry is used for values lying between 10% and 30% of the lowest value in the ranked series.

The term very dry is used for values lying 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 the records of various station in the Wokingham area in the years prior to the establishment of a weather station at Emmbrook in 1976.

In the case of monthly max, min and mean temperature and of rainfall total the 'long-term' goes from the present back to 1882. For extremes of temperature, highest max and lowest min are back to 1904, and for 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 values of the entire series. The central value in the ranked series is known as the median. This value may be different from the 'average' if the population of values is skewed. Also, as the median considers all values in the series, and the average refers to a 30 year climatological period, during periods of climatic change, the median will also be expected to differ from the average.

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

The year number given when discussing 'winter' is usually the year in which the majority of the period lies, i.e. January/February

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

The climatological day : runs from 09 to 09 GMT. The max temperature and rainfall read at 0900 are attributed to the previous day, as is the duration of measurable rain calculated up to 0900 GMT. The min temperature and grass min read at 0900 are attributed to the day of reading . Pressure is read at 0900 GMT, and the monthly mean pressure is the mean of the 0900 readings. Sunshine data, wind data, rainfall rates and 24 hour data from the AWS use the normal 00 to 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 % cover of snow at the 0900 GMT observation.

Hail : A day of hail is recorded if hailstones of 5 mm diameter or more are observed or recorded on the hail pad on 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. Note, various types of other ice meteors such as ice pellets, snow grains, and some types of snow pellets are included in this category.

Fog: A day of 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.