

# 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

MAY 2013

Temperature (°C / °F)			Anomaly	Rank in the past 132 years				
Mean maximum	16.0	60.8	-1.5	36 <sup>th</sup> lowest				
Mean minimum	6.0	42.8	-1.5	34 <sup>th</sup> lowest				
Daily mean	11.0	51.8	-1.5	28 <sup>th</sup> lowest				
Highest maximum	23.2	73.8	on 7 <sup>th</sup>	Lowest maximum	9.2	48.6	on 24 <sup>th</sup>	
Highest minimum	12.2	54.0	on 21 <sup>st</sup>	Lowest minimum	0.6	33.1	on 16 <sup>th</sup>	
Mean grass minimum	2.3	36.1	-2.0	Lowest grass minimum	-6.5	20.3	on 1 <sup>st</sup>	
Mean earth @30 cm	12.3	54.1	-1.2	Earth @100 cm	10.9	51.6		
Frost duration (hrs)	0.0			Rain duration (hrs)	46.6			
Rainfall total (mm / in)	50.4	1.98	100 %					
Highest daily fall	10.0	0.39	on 28 <sup>th</sup>					
Number of: Dry days (<0.2mm)	15	Wet days (>0.9mm)	12	days ≥5mm	4			
Sunshine total (hrs)	175.1	Daily mean	5.65	92 %	Sunniest day	14.4	on 2 <sup>nd</sup>	
N° days with: Air frost	0	Ground frost	9	Snow falling	0	Snow lying	0	
Thunder	0	Hail ≥5mm	0	Small hail/ice	2	Fog @09	0	
Nil sun	3							
Pressure MSL : Mean @09 GMT, mbar	1012.7	-3.2	Highest	1026.9	on 1 <sup>st</sup>	Lowest	986.0	on 15 <sup>th</sup>
Relative humidity : Mean (%)	72.0	Lowest	13	on 2 <sup>nd</sup>	Water vapour (g/kg), mean at 09 and 15 GMT	5.9,	5.6	
Overall mean wind speed (mph)	7.0	Windiest day	13.9	on 9 <sup>th</sup>	Max gust	43	on 9 <sup>th</sup>	
Wind direction (days)	N 5	NE 3	E 0	SE 1	S 2	SW 11	W 3	NW 6
Least windy day (mph)	3.2	on 16 <sup>th</sup>	Calm; less than 0.5 mph (minutes)	563				

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

Notes:

### Mostly Cold and Often Dull with Rainfall Near Normal

Although the first week of May was mostly dry, sunny and warm, unfortunately it was not to last, and the remainder of the month was mostly cold and at times dull and rather wet. **Temperature:** This is the coldest May since 1996, and before that, 1984, and the 5<sup>th</sup> coldest in the past 38 years. About 1 in 3 Mays have at least 1 air frost, but there was none this May. However, there were 3 more ground frosts than average, the last on the 27<sup>th</sup>. The highest max is 2.2° below the median and is lowest since 1994. The lowest max is 1.8° below the median and is lowest since 1996. The highest min is 0.3° below the median and the lowest min is 0.1° above its median. The lowest grass min is lowest for the month since 1997, and earth temperatures at both 30cm and 1m depth are lowest since 1996. Also, the highest 30cm temperature of 13.2° on the 8<sup>th</sup> and 28<sup>th</sup> is lowest for May in the past 34 years. **Rainfall:** This month's total is exactly equal to the current 30 year climatological average. Despite this, it is the wettest May in the past 5 years. In the longer-term the total is 6.3 mm above the 132 year median. Rainfall accumulation up to the 26<sup>th</sup> had been below average, but the 23.7 mm that fell over the 3 following days brought this up to average. The highest daily fall is 3.6 mm below the median, and is 3<sup>rd</sup> lowest in the past 10 years. The number of dry days is 3 less than average, and lowest since 2007. A dry spell of 6 days ended on the 3<sup>rd</sup>. Small hail fell on the 11<sup>th</sup> and 23<sup>rd</sup> but there was no thunder. The highest rain rate was 23 mm/hr on the 24<sup>th</sup>. **Sunshine:** This is the dullest May since 2007, but there were some sunny days, especially during the 1<sup>st</sup> week, and the 3 days to the 27<sup>th</sup> averaged over 11 hours per day, but for the majority of the month sunshine accumulation was below average. In the 17 day period 8<sup>th</sup> to the 24<sup>th</sup>, only 1 day reached 50% of the maximum, and 10 failed to reach 20%. Overall there were 12 days with <3 hours, 13 with =>6 hours, 8 with =>9 hours and 4 with =>12 hours. **Wind:** The 9<sup>th</sup> was the windiest May day since 1996. **Humidity:** On the 2<sup>nd</sup>, the relative humidity fell to 13%, the lowest for any day since before 1998, the previous lowest being 15% on 3<sup>rd</sup> May 2011. **Commentary: From the 1<sup>st</sup> to the 16<sup>th</sup> :** Daytime temperatures were above normal until the 7<sup>th</sup>, then near or below. Anomalies for daily max ranged from +6.4° on the 7<sup>th</sup> to -6.4° on the 14<sup>th</sup>. After 3 cold nights at the start of the month, minima were generally near normal. Anomalies for daily min ranged from -5.7° on the 1<sup>st</sup> to +4.0° on the 8<sup>th</sup>. After a dry start, rainfall was mainly near normal from the 7<sup>th</sup> on, although the 14<sup>th</sup> with 8 mm was a wet day. It was quite sunny until the 7<sup>th</sup>, then rather dull. Winds started light NE'ly, backing Wly on the 3<sup>rd</sup>, temporarily increasing fresh SW'ly on the 4<sup>th</sup>, becoming strong on the 9<sup>th</sup>, continuing mainly fresh until dropping light on the 16<sup>th</sup>. **From the 17<sup>th</sup> to the 31<sup>st</sup> :** Daytime temperatures were near or below normal, and it was cold on the 23<sup>rd</sup>, 24<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup>. Anomalies for daily max ranged from +2.2° on the 31<sup>st</sup> to -9.5° on the 24<sup>th</sup>. Anomalies for daily min ranged from -6.0° on the 17<sup>th</sup> and -5.7° on the 26<sup>th</sup> to +4.4° on the 21<sup>st</sup>. Rainfall was generally below normal, with 8 dry days in this period, but there was a wet spell from the 27<sup>th</sup> to 29<sup>th</sup>. Apart from 3 sunny days to the 27<sup>th</sup>, this period was dull, with nil sun on the 20<sup>th</sup>, 28<sup>th</sup> and 30<sup>th</sup>. Light Nly winds on the 17<sup>th</sup> became moderate on the 20<sup>th</sup> and temporarily fresh on the 24<sup>th</sup>, becoming fresh SW'ly on the 27<sup>th</sup>, dropping light on the 28<sup>th</sup> and veering N'ly again on the 29<sup>th</sup>.

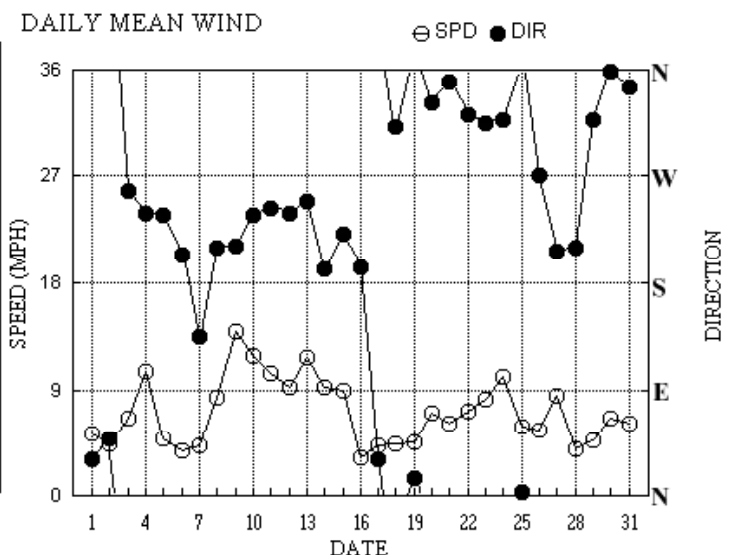
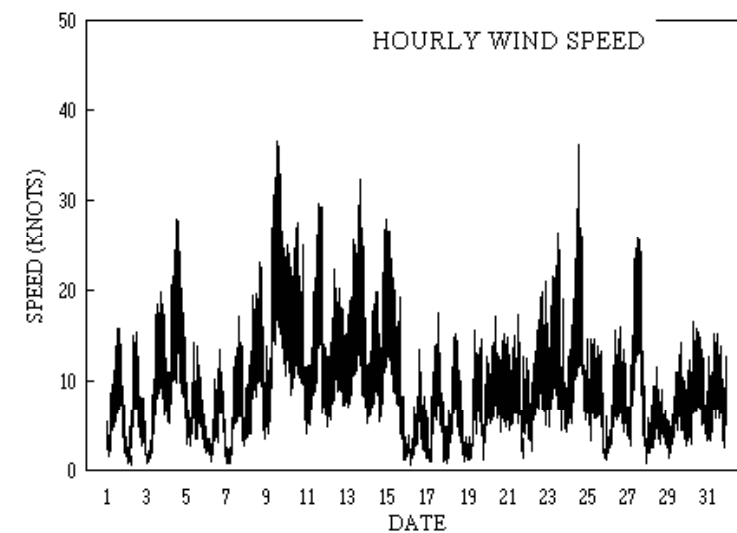
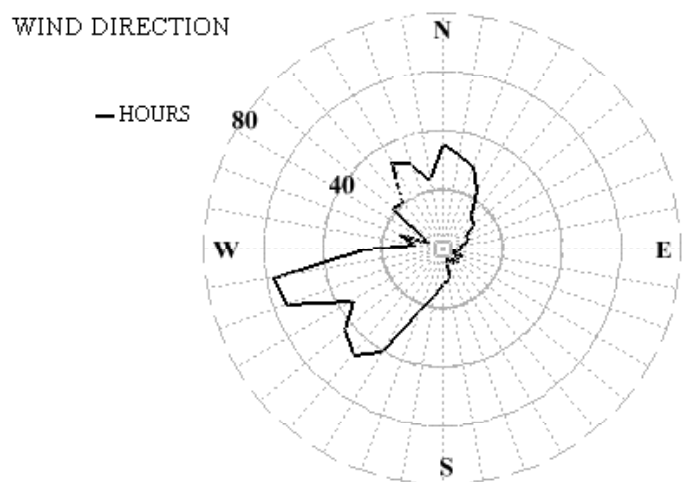
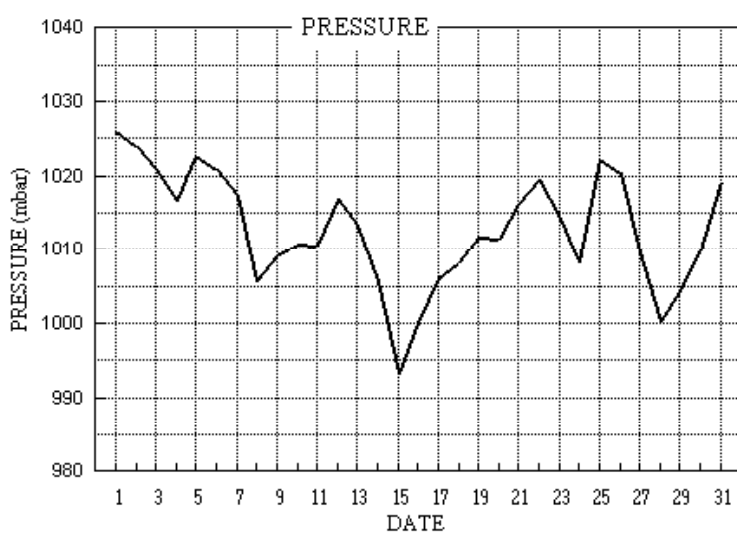
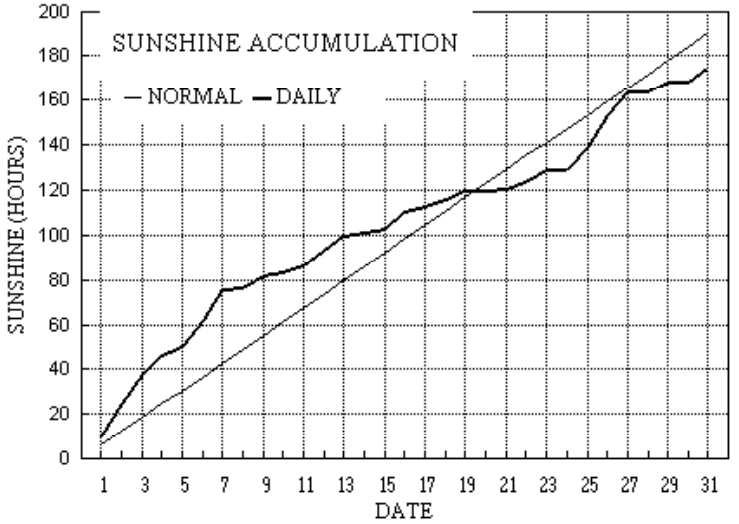
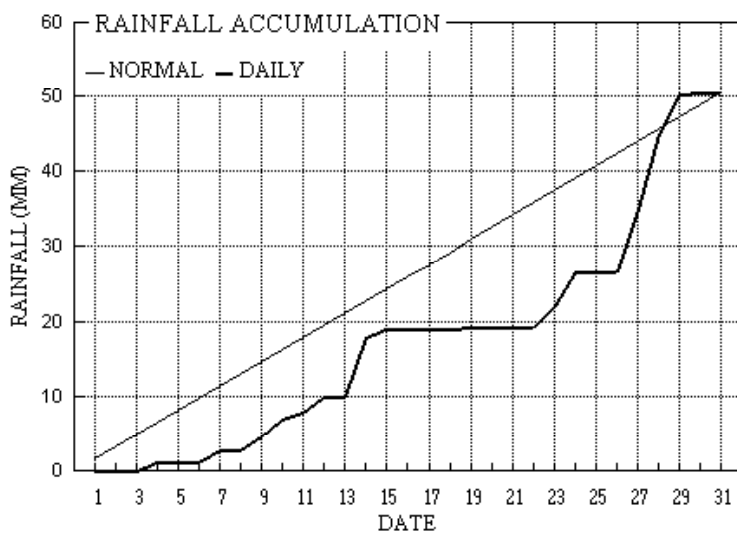
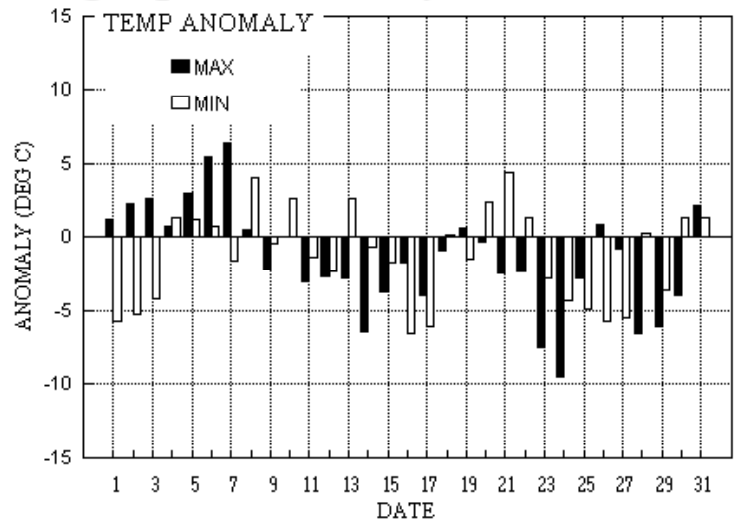
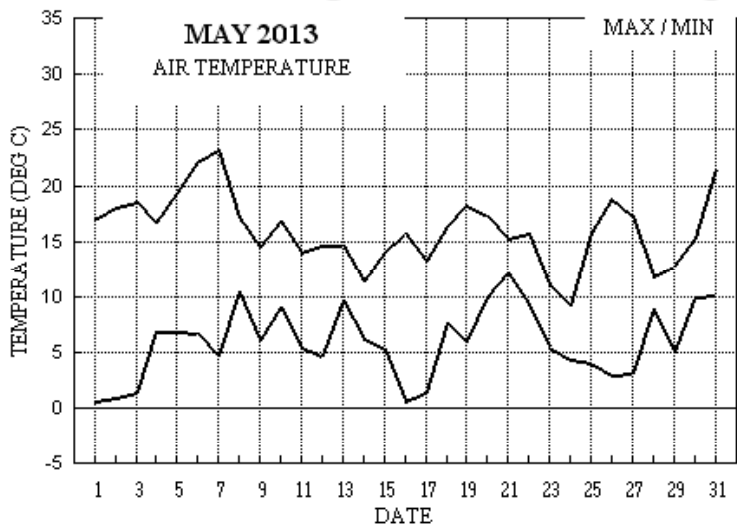
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 <sup>st</sup> to the 10 <sup>th</sup>				From the 11 <sup>th</sup> to the 20 <sup>th</sup>				From the 21 <sup>st</sup> to the 31 <sup>st</sup>			
+2.0°	-0.7°	43%	137%	-2.5°	-1.5°	74%	59%	-3.0°	-1.6°	172%	81%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

# Wokingham climatological graphs for May 2013



Month: MAY 2013

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	17.0	0.6	0.0	-6.5	10.8	9.6	10.6	0.0	1025.9	0 1 0 0	0 0 0 0	0 0 0 0	30 4.4 4.6	18 16 1640	20 8	16 0.0	
2	18.1	0.9	0.0	-4.6	11.2	9.7	14.4	0.0	1024.0	0 1 0 0	0 0 0 0	0 0 0 0	49 3.2 3.9	27 16 1203	40 8	11 0.0	
3	18.5	1.4	tr	-4.3	11.5	9.8	13.3	0.0	1020.8	0 1 0 0	0 0 0 0	0 0 0 0	258 5.5 5.7	258 20 1722	263 10	17 0.0	
4	16.7	6.8	1.2	1.3	11.9	9.9	8.3	0.0	1016.6	0 0 0 0	0 0 0 0	0 0 0 0	239 8.7 9.2	250 28 1251	258 15	13 0.3	
5	19.3	6.8	0.0	3.2	12.1	10.0	4.0	0.0	1022.7	0 0 0 0	0 0 0 0	0 0 0 0	237 3.8 4.2	254 14 0831	257 6	08 0.0	
6	22.1	6.7	0.0	1.6	12.4	10.2	11.5	0.0	1020.9	0 0 0 0	0 0 0 0	0 0 0 0	203 2.6 3.3	220 14 1628	204 7	15 0.0	
7	23.2	4.7	1.5	-0.5	12.7	10.3	14.2	0.0	1017.4	0 1 0 0	0 0 0 0	0 0 0 0	134 2.9 3.7	132 17 1530	168 7	17 1.5	
8	17.1	10.5	0.2	4.7	13.2	10.5	0.3	0.0	1005.7	0 0 0 0	0 0 0 0	0 0 0 0	209 6.2 7.2	211 23 1620	211 11	15 0.2	
9	14.5	6.0	1.8	2.2	12.8	10.8	5.7	0.0	1009.0	0 0 0 0	0 0 0 0	0 0 0 0	211 12.0 12.1	212 37 1325	211 18	14 2.8	
10	16.9	9.1	2.3	6.9	12.4	10.9	1.7	0.0	1010.7	0 0 0 0	0 0 0 0	0 0 0 0	237 10.0 10.2	260 28 1307	260 13	12 2.4	
11	14.0	5.5	0.8	1.4	12.5	11.0	2.7	0.0	1010.5	0 0 0 0	0 0 1 0	0 0 1 0	243 8.6 9.0	244 30 1441	254 15	14 0.5	
12	14.6	4.6	2.1	0.5	12.1	11.0	6.7	0.0	1016.9	0 0 0 0	0 0 0 0	0 0 0 0	239 7.8 8.1	278 22 1030	230 11	13 2.8	
13	14.6	9.7	tr	8.2	12.4	11.1	6.5	0.0	1013.4	0 0 0 0	0 0 0 0	0 0 0 0	249 10.1 10.2	251 33 1707	249 14	14 0.2	
14	11.3	6.3	8.0	3.9	12.4	11.1	1.2	0.0	1005.7	0 0 0 0	0 0 0 0	0 0 0 0	191 6.5 8.0	163 28 2325	171 12	22 9.0	
15	14.0	5.3	1.1	5.2	12.1	11.1	1.6	0.0	993.1	0 0 0 0	0 0 0 0	0 0 0 0	221 7.1 7.7	198 27 0157	193 14	01 0.9	
16	15.7	0.6	tr	-3.8	11.7	11.1	7.8	0.0	1000.0	0 1 0 0	0 0 0 0	0 0 0 0	193 0.7 2.8	180 14 1525	194 7	15 0.0	
17	13.2	1.4	tr	-2.5	11.9	11.1	2.8	0.0	1006.0	0 1 0 0	0 0 0 0	0 0 0 0	30 3.3 3.6	20 18 1303	24 7	14 0.0	
18	16.3	7.6	0.0	5.6	11.9	11.1	2.6	0.0	1008.1	0 0 0 0	0 0 0 0	0 0 0 0	312 2.5 3.8	302 15 1018	306 7	08 0.0	
19	18.2	5.9	0.2	1.6	12.2	11.1	4.3	0.0	1011.6	0 0 0 0	0 0 0 0	0 0 0 0	15 3.4 3.9	22 16 0925	15 7	13 0.2	
20	17.3	10.0	tr	5.4	12.7	11.1	0.0	0.0	1011.5	0 0 0 0	0 0 0 0	0 0 0 0	332 5.9 6.1	340 17 1032	352 8	10 0.2	
21	15.2	12.2	0.1	12.6	12.9	11.2	0.2	0.0	1016.1	0 0 0 0	0 0 0 0	0 0 0 0	349 5.1 5.3	345 18 1300	4 8	09 0.2	
22	15.7	9.3	tr	9.3	12.8	11.3	3.3	0.0	1019.5	0 0 0 0	0 0 0 0	0 0 0 0	322 6.0 6.3	307 21 2347	326 9	16 0.0	
23	11.0	5.5	2.7	0.4	12.5	11.4	5.3	0.0	1014.3	0 0 0 0	0 0 1 0	0 0 1 0	315 6.5 7.2	322 27 1302	326 10	07 3.5	
24	9.2	4.3	4.5	0.1	12.1	11.5	0.4	0.0	1008.2	0 0 0 0	0 0 0 0	0 0 0 0	318 5.8 8.8	294 36 1335	20 13	17 3.7	
25	15.7	4.0	0.0	-1.3	11.5	11.5	10.0	0.0	1022.3	0 1 0 0	0 0 0 0	0 0 0 0	3 4.5 5.1	9 15 0553	13 7	00 0.0	
26	18.9	3.0	0.0	-2.4	12.0	11.4	13.9	0.0	1020.4	0 1 0 0	0 0 0 0	0 0 0 0	270 4.1 4.9	260 16 1522	236 7	20 0.0	
27	17.3	3.1	8.4	-2.2	12.7	11.4	11.0	0.0	1009.7	0 1 0 0	0 0 0 0	0 0 0 0	206 7.2 7.4	208 26 1315	204 13	12 6.8	
28	11.8	8.8	10.0	7.4	13.2	11.4	0.0	0.0	1000.3	0 0 0 0	0 0 0 0	0 0 0 0	209 1.2 3.4	269 12 1230	274 5	12 5.5	
29	12.7	5.0	5.3	0.8	12.8	11.6	4.1	0.0	1004.3	0 0 0 0	0 0 0 0	0 0 0 0	318 3.1 4.0	327 14 1615	311 7	16 5.6	
30	15.2	9.9	0.2	10.0	12.8	11.6	0.0	0.0	1009.9	0 0 0 0	0 0 0 0	0 0 0 0	359 5.4 5.7	5 17 0840	3 8	08 0.3	
31	21.5	10.1	0.0	7.3	13.0	11.7	6.7	0.0	1019.1	0 0 0 0	0 0 0 0	0 0 0 0	345 5.1 5.3	333 15 0808	341 7	08 0.0	
Total			50.4				175.1	0.0						263 2.7 6.1			46.6
Mean	16.0	6.0		2.3	12.3	10.9	5.65	0.0	1012.7								
Anom	-1.5	-1.5	100%	-2.0	-1.2	-0.9	92%										
Daily mean		11.0															
Anom		-1.5															

Number of days with:

Air frost = 0      Ground frost = 9      Nil sun = 3  
Snow falling = 0      Snow lying = 0      Thunder = 0  
Hail=>5mm = 0      Hail<5mm or ice = 2      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, &lt;.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 =&gt;5mm. Ic = Hail &lt;5mm or ice. Fg = Fog at 09 GMT.

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for MAY 2013

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	61	3	07	05	10	7.4	3.5	76	4.8	1025.9	2	001	01	1	1	3	6	4	0	0	83710					1		
2	81	3	06	08	15	13.0	-0.7	39	3.6	1024.0	1	007	02	0	0	0	0	9	0	1	83078					2	COTRA U/a cont+parhelia	
3	81	1	28	04	10	14.4	4.0	49	5.0	1020.8	8	003	02	0	0	0	0	9	0	1	81080					3	COTRA	
4	65	7	21	12	22	11.7	7.5	75	6.4	1016.6	6	002	21	6	2	7	5	4	7	/	81618	86620				4	/Sc50 3Ac58 jpNW	
5	64	7	26	06	14	13.7	8.1	69	6.6	1022.7	3	006	02	2	2	6	5	5	/	1	86620	83078				5	COTRA	
6	70	5	33	03	06	15.9	8.2	60	6.7	1020.9	7	006	03	0	0	1	1	6	3	1	81830	85080				6	1Ac65 COTRA Cu hum U/a cont	
7	70	1	10	06	11	17.9	7.1	49	6.2	1017.4	8	008	02	0	0	0	0	9	0	1	81075					7	COTRA	
8	82	7	21	10	19	13.9	10.7	81	8.1	1005.7	5	001	03	6	2	7	8	4	/	/	81712	85815	87620			8	Cu hum	
9	65	6	20	16	27	13.0	4.2	55	5.1	1009.0	8	013	15	1	1	4	2	6	3	0	84833	83358				9	Cu med jpNW vv30k ex p	
10	68	8	24	11	22	11.0	8.0	82	6.7	1010.7	2	021	60	6	2	8	8	4	/	/	81712	87815	88625			10	Cu hum	
11	80	7	24	09	18	10.8	4.6	66	5.3	1010.5	0	000	03	2	2	7	8	5	/	/	83825	86640				11	Cu hum	
12	82	5	26	06	15	11.7	4.2	60	5.1	1016.9	1	010	03	1	1	1	1	5	4	1	81828	85075				12	1Ac67 COTRA Cu hum	
13	83	7	26	10	23	11.9	1.3	48	4.2	1013.4	0	008	03	2	2	2	8	6	0	8	81835	87272				13	2Sc50 1Cc69 COTRA 22 halo	
14	75	8	24	08	16	10.2	3.3	62	4.8	1005.7	8	018	03	2	2	3	8	5	2	/	83825	88462				14	1Sc50 Cu med	
15	80	8	24	10	18	6.7	3.2	79	4.9	993.1	2	030	20	5	2	8	5	4	/	/	81715	83618	86625			15	8Sc50 jpNW vv60k exNW	
16	80	2	02	02	06	11.0	4.0	62	5.1	1000.0	8	005	03	0	0	1	8	5	3	0	81825					16	1Sc40 1Ac58 Cu con	
17	75	7	05	06	11	10.8	6.6	75	6.1	1006.0	1	013	03	1	1	7	8	5	/	1	83820	87635				17	/Ci75 Cu med	
18	78	7	31	09	15	12.6	5.1	60	5.5	1008.1	7	009	03	2	2	3	8	5	0	1	83825	87075				18	1Sc35 COTRA Cu med	
19	70	6	04	05	10	14.5	7.5	63	6.4	1011.6	2	006	03	2	2	1	1	5	3	/	81828	86362				19	Absent vv&clد est	
20	60	8	34	07	13	12.8	10.5	86	7.9	1011.5	0	001	20	5	2	8	5	3	/	/	83708	86710	88615			20		
21	58	8	01	07	13	12.3	10.1	86	7.6	1016.1	2	018	05	5	2	8	5	4	/	/	85710	88615				21		
22	80	7	34	06	12	11.4	7.0	74	6.2	1019.5	0	004	03	2	2	7	5	4	/	/	87618					22		
23	80	7	33	09	22	8.5	0.4	57	3.9	1014.3	7	004	25	8	1	4	8	6	1	8	84830	83463	87268			23	1Sc50 Cu med	
24	82	8	28	09	19	7.6	3.3	74	4.8	1008.2	7	017	60	6	2	8	8	5	/	/	83820	86630	88640			24	Cu hum	
25	75	3	35	06	15	9.0	4.6	74	5.2	1022.3	1	015	03	1	1	3	1	5	0	1	83820					25	1Ci75 Cu hum	
26	80	7	30	04	11	14.3	4.1	50	5.0	1020.4	8	005	02	2	2	0	0	9	0	1	87075					26	COTRA U/a cont	
27	75	1	21	09	18	13.7	6.8	63	6.1	1009.7	8	020	03	1	1	1	1	5	0	0	81825					27	Cu hum	
28	25	8	01	04	06	9.6	8.9	95	7.1	1000.3	7	008	63	6	6	7	8	2	2	/	81704	83806	87620			28	8Ns35 Cu hum	
29	68	6	28	03	08	11.4	7.4	76	6.4	1004.3	1	013	03	1	1	2	8	4	3	5	81815	83365				29	2Sc25 2Cs72 /Ci75 Cu hum	
30	59	8	36	07	17	12.0	10.4	90	7.8	1009.9	2	018	20	5	6	8	5	3	/	/	81708	87612	88618			30		
31	59	7	32	08	15	14.0	9.7	75	7.4	1019.1	1	008	05	2	2	7	5	4	/	/	87617					31		

Mean vis = 23.6 km

Mean cloud = 5.9 74%

Mean wind speed = 7.3 kn

Mean gust = 15 kn

Mean TT = 11.9 °C

Mean Td = 5.9 °C

Mean RH = 68.1 %

Mean r = 5.9 g/kg

Mean PPP = 1012.7 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

dd = Direction from which wind is blowing, tens of degrees true

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

Td = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

r = Humidity mixing ratio at 1.2 m, g/kg

PPP = Air pressure reduced to sea level, mbar

a = Characteristic of pressure tendency (Code FM12-0200)

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)-

covers past 3 hours.

Nh = Amount of low cloud present, oktas

Cl = Type of low cloud (Code Fm12-0513)

h = Height of low cloud (Code FM12-1600)

Cm = Type of medium cloud (Code FM12-0515)

Ch = Type of high cloud (Code FM12-0509)

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs = Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for MAY 2013

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ci	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	89	1	03	08	15	16.7	-2.8	26	3.0	1022.1	7	011	02	0	0	1	1	7	0	1							1	1Ci80 vv80k	
2	89	2	02	04	13	17.1	-10.1	15	1.7	1021.8	7	010	02	0	0	1	1	7	0	1							2	2Ci78 COTRA Cu hum (farW) U/a cont	
3	80	2	25	08	19	18.0	6.4	46	5.9	1018.3	7	013	03	0	0	1	8	6	0	1						3	1Sc45 2Ci78 Cu hum		
4	86	5	25	12	28	15.8	2.6	41	4.6	1016.5	2	007	02	1	1	2	8	6	4	1						4	1Sc56 2Ci78 Cu hum Irisation		
5	84	7	25	06	10	18.5	8.4	52	6.8	1021.3	7	011	02	2	2	7	8	6	/	/						5	Cu hum		
6	82	4	20	08	12	21.4	7.7	41	6.5	1018.2	7	017	02	1	1	3	4	7	0	1						6	1Sc56 2Ci78 Cu hum		
7	83	1	17	07	13	22.6	3.4	29	4.8	1014.2	7	019	02	0	0	1	1	8	4	1						7	1Ac65 1Ci78 Cu hum		
8	86	7	20	11	18	16.2	8.7	61	7.0	1005.7	8	006	03	2	2	2	8	6	7	/						8	1Sc35 /Ac62 Cu hum		
9	70	7	22	18	36	12.6	3.5	54	4.9	1006.3	7	013	80	8	2	5	8	6	7	6						9	2Sc50 2Ac59 Cu med		
10	83	7	24	10	24	15.3	7.0	58	6.2	1012.7	1	008	02	2	2	7	8	6	/	/						10	Cu hum		
11	82	7	25	14	30	12.6	4.2	57	5.1	1009.7	6	003	02	8	2	6	8	6	3	2						11	3Ac62 Absent vv@cld est		
12	61	8	21	09	21	11.4	7.1	75	6.2	1015.0	8	015	61	6	2	7	5	5	2	/						12			
13	80	4	25	13	29	13.8	1.0	42	4.1	1010.8	7	015	15	1	1	4	8	6	0	1						13	1Ci75 Cu med jpW vv60k exW		
14	62	8	19	06	16	8.6	6.6	87	6.1	1000.7	7	025	61	6	6	7	8	4	2	/						14	2Cu20 Cu med		
15	81	7	24	07	14	12.0	2.4	52	4.6	997.6	2	017	15	6	2	7	8	6	/	/						15	2Sc45 Cu con jpW vv60k exW		
16	80	6	18	07	12	14.1	1.9	44	4.4	998.4	6	005	15	2	2	5	2	6	6	/						16	2Ac58 Cu con jp all quads vv70k ex p		
17	82	8	02	08	15	10.5	5.1	69	5.5	1008.0	1	007	02	8	2	8	8	5	/	/						17	Cu med		
18	82	6	36	04	10	14.8	5.4	53	5.6	1006.8	8	006	02	2	2	6	8	6	/	/						18	Absent vv&cld est		
19	75	6	01	06	13	17.2	7.3	52	6.4	1011.9	8	003	02	2	2	1	4	6	7	1						19	1Ac58 4Ci75 Absent vv&cld est		
20	57	8	34	07	13	16.5	12.6	78	9.1	1011.8	0	004	05	2	2	8	5	4	/	/						20			
21	59	8	34	06	12	14.3	9.1	71	7.1	1017.2	0	000	05	2	2	8	8	5	/	/						21	Cu hum		
22	84	7	31	07	15	13.5	5.6	59	5.6	1018.8	8	008	02	2	2	7	8	6	/	/						22	Cu hum		
23	65	7	02	13	25	6.5	2.2	73	4.4	1013.4	5	005	80	8	2	6	9	5	6	3						23	/Sc50 /Ac62 /Ci70 vv60k ex p		
24	56	8	34	13	27	7.4	5.5	88	5.7	1004.8	5	011	58	6	5	7	5	3	2	/						24			
25	85	4	35	07	12	15.0	3.5	46	4.8	1021.2	6	006	02	1	1	3	4	6	0	1						25	1Sc56 2Ci75 COTRA Cu hum		
26	83	6	26	06	14	17.1	1.6	35	4.2	1017.2	7	018	02	2	2	1	1	7	0	1						26	Cu hum		
27	88	3	21	13	26	16.4	-1.5	29	3.4	1005.9	6	018	03	0	0	1	1	7	3	5						27	1Ac68 1Cs72 COTRA Cu hum		
28	58	8	23	05	09	10.3	8.8	90	7.1	998.9	6	002	61	6	6	7	8	3	1	/						28	3Sc35 8As58 Cu med		
29	57	8	31	07	12	12.2	9.4	83	7.4	1006.0	1	002	50	6	5	8	5	4	/	/						29			
30	68	8	01	07	16	14.3	9.5	73	7.4	1011.9	1	006	25	8	2	8	8	5	/	/						30	Cu med		
31	63	3	36	05	13	20.6	10.3	52	7.7	1018.4	7	006	02	0	0	3	8	6	0	0						31	1Sc45 Cu med		

Mean vis = 34.4 km

Mean cloud = 5.8 73%

Mean wind speed = 8.5 kn

Mean gust = 17 kn

Mean TT = 14.6 °C

Mean Td = 4.9 °C

Mean RH = 55.8 %

Mean r = 5.6 g/kg

Mean PPP = 1011.7 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

dd = Direction from which wind is blowing, tens of degrees true

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

Td = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

r = Humidity mixing ratio at 1.2 m, g/kg

PPP = Air pressure reduced to sea level, mbar

a = Characteristic of pressure tendency (Code FM12-0200)

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)-

covers past 3 hours.

Nh = Amount of low cloud present, oktas

Cl = Type of low cloud (Code Fm12-0513)

h = Height of low cloud (Code FM12-1600)

Cm = Type of medium cloud (Code FM12-0515)

Ch = Type of high cloud (Code FM12-0509)

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs = Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

Wokingham		Hour	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May	16-May
Sunshine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	4	0.00	0.07	0.14	0.24	0.00	0.10	0.15	0.00	0.31	0.00	0.16	0.45	0.00	0.00	0.00	0.00	0.33
	5	0.00	1.00	1.00	0.52	0.00	1.00	1.00	0.00	1.00	0.00	0.16	1.00	0.08	0.30	0.00	1.00	
	6	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.97	0.00	0.52	1.00	0.26	0.51	0.00	1.00	
	7	0.05	1.00	1.00	0.00	0.38	1.00	1.00	0.00	0.66	0.00	0.45	1.00	0.96	0.38	0.00	1.00	
	8	0.41	1.00	1.00	0.04	0.57	1.00	1.00	0.01	0.77	0.00	0.08	0.98	0.96	0.00	0.00	1.00	
	9	1.00	1.00	1.00	0.54	0.00	0.98	1.00	0.00	0.33	0.00	0.27	0.83	0.10	0.00	0.00	0.73	
	10	1.00	1.00	1.00	0.19	0.00	0.69	1.00	0.00	0.22	0.04	0.01	0.75	0.26	0.00	0.00	0.15	
	11	1.00	1.00	1.00	0.91	0.27	0.57	1.00	0.00	0.61	0.68	0.00	0.70	0.18	0.00	0.00	0.27	
	12	1.00	1.00	1.00	0.86	0.05	0.43	1.00	0.00	0.37	0.53	0.00	0.00	0.49	0.00	0.00	0.38	
	13	1.00	1.00	1.00	1.00	0.00	0.43	1.00	0.21	0.30	0.36	0.00	0.00	0.73	0.00	0.00	0.22	
	14	1.00	1.00	0.95	0.96	0.00	0.69	1.00	0.08	0.12	0.00	0.00	0.00	0.62	0.00	0.00	0.09	
	15	1.00	1.00	1.00	1.00	0.32	0.89	1.00	0.02	0.00	0.10	0.02	0.00	0.09	0.00	0.25	0.05	
	16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.02	0.26	0.00	0.73	0.00	0.04	0.51	
	17	1.00	1.00	1.00	0.42	0.69	1.00	1.00	0.00	0.00	0.00	0.55	0.00	0.71	0.00	0.64	0.93	
	18	1.00	1.00	0.23	0.39	0.67	0.73	1.00	0.00	0.00	0.00	0.24	0.00	0.34	0.00	0.52	0.14	
	19	0.18	0.30	0.00	0.25	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.16	0.00	
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tot		<b>10.63</b>	<b>14.34</b>	<b>13.32</b>	<b>8.31</b>	<b>3.95</b>	<b>11.49</b>	<b>14.21</b>	<b>0.32</b>	<b>5.66</b>	<b>1.74</b>	<b>2.73</b>	<b>6.71</b>	<b>6.53</b>	<b>1.19</b>	<b>1.61</b>	<b>7.82</b>	

	Hour	17-May	18-May	19-May	20-May	21-May	22-May	23-May	24-May	25-May	26-May	27-May	28-May	29-May	30-May	31-May	Mean
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.10	0.48	0.29	0.00	0.28	0.00	0.00	0.12
	5	0.90	0.00	0.01	0.00	0.00	0.00	0.99	0.00	0.98	1.00	0.00	0.00	0.99	0.00	0.00	0.42
	6	1.00	0.04	0.57	0.00	0.00	0.00	0.44	0.00	0.48	1.00	0.46	0.00	1.00	0.00	0.00	0.43
	7	0.40	0.86	0.30	0.00	0.00	0.00	0.08	0.14	0.52	1.00	1.00	0.00	1.00	0.00	0.05	0.46
	8	0.19	0.59	0.52	0.00	0.00	0.01	0.10	0.06	0.86	1.00	1.00	0.00	0.84	0.00	0.00	0.45
	9	0.30	0.15	0.58	0.00	0.00	0.00	0.33	0.00	0.66	1.00	0.79	0.00	0.00	0.00	0.53	0.39
	10	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.44	1.00	0.68	0.00	0.00	0.00	0.91	0.30
	11	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.71	0.75	0.50	0.00	0.00	0.00	0.76	0.35
	12	0.00	0.02	0.32	0.00	0.00	0.00	0.07	0.00	0.70	0.99	1.00	0.00	0.00	0.00	0.62	0.35
	13	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.39	0.94	1.00	0.00	0.00	0.00	0.50	0.34
	14	0.00	0.16	0.01	0.00	0.00	0.00	0.39	0.00	0.61	0.94	1.00	0.00	0.00	0.00	0.41	0.32
	15	0.00	0.02	0.31	0.00	0.00	0.13	0.31	0.01	0.69	0.85	1.00	0.00	0.00	0.00	0.32	0.33
	16	0.00	0.65	0.59	0.00	0.21	0.63	0.43	0.00	0.63	0.84	1.00	0.00	0.00	0.00	0.84	0.46
	17	0.00	0.13	0.33	0.00	0.00	0.72	0.82	0.00	0.55	0.75	1.00	0.00	0.00	0.00	0.45	0.44
	18	0.00	0.00	0.50	0.00	0.00	1.00	0.41	0.00	1.00	0.52	0.29	0.00	0.00	0.00	0.73	0.35
	19	0.00	0.00	0.25	0.00	0.00	0.77	0.00	0.19	0.71	0.86	0.00	0.00	0.00	0.00	0.56	0.14
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		<b>2.79</b>	<b>2.62</b>	<b>4.34</b>	<b>0.00</b>	<b>0.21</b>	<b>3.25</b>	<b>5.26</b>	<b>0.40</b>	<b>10.02</b>	<b>13.93</b>	<b>11.02</b>	<b>0.00</b>	<b>4.11</b>	<b>0.00</b>	<b>6.67</b>	<b>175.16</b>

MAY 2013	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	8.67	17.0	1504	0.6	349	60.8	94.4	410	20.2	1510	-0.07	3.79	5.3	958	2.4	1510	1024.16	1026.9	17	1021.5	1623	0.0
2	10.38	18.1	1328	0.9	440	49.6	91.5	505	13.3	1609	-2.12	3.30	4.5	824	1.6	1611	1022.67	1024.1	756	1021.0	1747	0.0
3	11.09	18.5	1411	1.4	422	60.3	93.0	437	30.5	1119	2.96	4.68	6.4	1409	3.6	1129	1019.73	1022.4	1	1017.8	1740	0.0
4	11.40	16.7	1455	6.8	444	64.7	91.0	1057	34.1	1544	4.44	5.25	8.4	1058	3.7	1544	1017.57	1021.2	2359	1015.3	1213	1.2
5	13.23	19.3	1625	6.8	323	67.8	84.9	349	45.6	1614	7.10	6.22	7.5	1205	5.0	57	1021.75	1023.0	953	1020.7	1749	0.0
6	14.25	22.1	1424	6.7	507	64.8	96.4	548	33.6	1357	6.80	6.10	8.0	1043	5.3	1250	1019.78	1021.9	3	1017.3	1740	0.0
7	14.77	23.2	1507	4.7	448	57.3	96.1	540	21.2	1539	4.57	5.28	7.2	906	3.6	1645	1015.47	1018.9	2	1010.1	2359	0.0
8	12.76	17.1	1414	7.8	2359	77.6	94.5	716	55.0	238	8.81	7.12	9.4	740	4.9	2359	1007.00	1010.6	2359	1005.2	714	1.7
9	10.00	14.5	1308	6.0	356	74.2	91.0	2101	44.9	1332	5.32	5.59	6.9	2101	4.5	1327	1007.76	1010.7	58	1004.4	1910	2.0
10	11.68	16.9	1311	7.2	2359	74.7	89.8	2358	47.1	1218	7.10	6.28	7.1	746	5.0	1226	1010.80	1014.0	2036	1005.3	16	2.1
11	9.29	14.0	1316	5.1	2246	75.6	92.9	457	50.7	1607	4.92	5.41	7.3	1305	4.5	1739	1011.04	1013.9	2359	1009.3	1658	1.0
12	9.78	14.6	1132	4.6	209	78.8	93.3	2358	44.0	1100	5.98	5.88	7.8	1959	4.1	1100	1014.88	1017.0	912	1012.7	2350	1.2
13	10.85	14.6	1413	6.9	2359	66.4	94.3	256	39.3	1448	4.38	5.29	7.6	6	3.8	1754	1011.78	1013.9	812	1009.6	1747	1.2
14	8.48	11.3	1124	6.3	424	81.0	93.5	2035	57.1	939	5.32	5.63	7.0	2103	4.5	927	1001.41	1010.1	17	986.1	2352	7.6
15	7.93	14.0	1529	3.4	2359	77.6	95.1	2356	44.6	1530	4.09	5.18	6.5	1701	4.2	1534	994.65	1001.2	2145	986.0	36	1.1
16	8.60	15.7	1258	0.6	456	72.1	97.5	524	37.3	1259	3.14	4.84	6.4	753	3.8	1557	999.75	1001.6	2359	998.1	1404	0.0
17	8.42	12.9	936	1.4	436	79.7	96.7	625	61.6	1232	4.92	5.45	7.0	746	4.1	434	1006.58	1010.1	2236	1001.5	0	0.0
18	11.45	16.3	1657	7.6	134	70.9	91.4	2359	46.5	1655	6.01	5.84	6.6	2241	5.1	1723	1008.11	1009.5	9	1006.2	1518	0.0
19	12.74	18.2	1635	5.9	309	72.5	96.2	439	50.1	1638	7.51	6.45	7.5	923	5.5	309	1011.55	1013.2	2258	1008.6	10	0.0
20	14.04	17.3	1752	10.0	356	81.0	88.9	806	73.6	2	10.82	8.11	9.5	1757	6.3	132	1012.11	1013.8	2341	1011.0	1128	0.2
21	13.28	15.4	0	11.1	2358	80.6	93.3	641	64.9	1626	9.98	7.61	8.9	1	6.5	2359	1016.38	1019.0	2232	1013.5	343	0.1
22	11.25	15.7	1633	7.8	2227	67.6	93.4	506	42.1	1635	5.16	5.53	6.9	507	3.8	2326	1018.77	1019.9	1137	1016.7	2343	0.1
23	7.24	11.0	1440	4.3	2245	68.8	84.3	2257	42.5	1029	1.80	4.32	5.5	1425	3.2	1025	1014.03	1016.8	2	1012.4	1449	1.5
24	6.48	9.1	1118	4.3	7	83.0	90.7	2054	65.2	1113	3.75	4.99	6.2	1519	4.2	3	1010.32	1018.3	2358	1003.8	1436	5.7
25	9.41	15.7	1642	4.0	424	69.1	93.7	503	33.5	1620	3.30	4.78	6.3	1054	3.5	1624	1021.00	1022.5	852	1018.2	0	0.0
26	11.89	18.9	1517	3.0	247	59.0	94.4	454	32.0	1521	3.16	4.74	5.9	1403	4.1	1555	1018.41	1021.3	0	1014.4	2356	0.0
27	11.46	17.3	1353	3.1	413	58.6	92.5	528	25.5	1613	2.71	4.68	6.3	1053	2.9	1613	1008.09	1014.6	1	1002.8	2357	0.0
28	9.59	10.9	1408	8.1	2353	91.5	96.3	834	76.7	10	8.28	6.87	7.6	1416	5.9	13	1000.39	1003.1	6	998.5	1549	17.1
29	10.15	12.7	1809	5.0	436	90.0	96.4	452	72.8	952	8.55	7.00	8.5	1809	5.2	436	1005.17	1008.7	2214	1001.4	121	1.5
30	12.65	15.2	1318	10.9	432	85.6	94.6	547	70.1	1444	10.25	7.75	8.2	946	7.2	2349	1011.34	1016.7	2250	1007.7	447	3.3
31	15.30	21.5	1649	10.1	221	71.1	91.6	259	47.5	1715	9.77	7.46	9.1	1326	6.3	2226	1018.60	1021.5	2357	1016.3	10	0.0
Total																						48.6
Mean	10.92	15.98		5.56		72.0	93.02		45.91		5.44	5.72	7.20		4.46		1012.29	1015.50		1008.82		
Max	15.30	23.15		11.10		91.5	97.50		76.70		10.82	8.11	9.45		7.20		1024.16	1026.86		1021.50		
Min	6.48	9.05		0.61		49.6	84.30		13.32		-2.12	3.30	4.53		1.58		994.65	1001.17		985.97		

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

Temperature and humidity are from an aspirated Vaisala HMP45 unit  
 Pressure is from a Setra CS100 sensor  
 Data is logged on a Campbell Scientific CR10X measurement and control system

# 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

## SPRING 2013

Temperature (°C)	Rank in the past 132 years								
Mean maximum	12.1	(-2.2)	11 <sup>th</sup> lowest						
Mean minimum	3.2	(-1.8)	18 <sup>th</sup> lowest						
Daily mean	7.7	(-1.9)	11 <sup>th</sup> lowest						
Rainfall total (mm)	159.4	(110%)	41 <sup>st</sup> highest						
Sunshine total (hours)	400.5	( 87%)							
N° of:	Dry days	54 (+2)	Wet days	29 (+1)					
Days with:	Air frost	26 (+15)	Ground frost	49 (+14)	Snow falling	12 (+8)	Snow lying	1 (+1)	
Thunder	3 (-2)	Hail ≥5mm	0 (-2)	Small hail/ice	10 (+5)	Fog @09 GMT	0 (-1)	Nil sun	18 (+9)
Air pressure MSL : Mean @09 GMT (mbar)	1012.3	(-3.3)							

Departure from 1981 to 2010 average shown in brackets.

Notes: **Very Cool and Dull with Above Average Rainfall.**

**Temperature:** This has been a remarkable spring season, with the mean temperature lowest since 1962. Only 4 springs in the 20<sup>th</sup> century were colder, 1917, 1941, 1951 and 1962. The mean temperature for the first 13 springs of the 21<sup>st</sup> century is 10.1°, compared with the 7.7° this year. Also of note, just 2 years ago in 2011 we had the mildest spring in 132 years, 3.4° milder than this spring. The mean maximum is lowest since 1986, while the mean minimum is lowest since 1962, though 1984 had the same value as this spring. March was the coldest month in the season, with its mean maximum 4.2° below average and lowest in over 90 years. April, while still on the cool side, had an anomaly of -0.7°, but in a cold May the anomaly was -1.5°. The highest maximum was 23.2° on the 7<sup>th</sup> May, 2.2° below the median and lowest since 1994. The lowest maximum was 1.0° on the 24<sup>th</sup> March, 3.4° below the median and lowest since 1986. The highest minimum was 12.2° on the 21<sup>st</sup> May, 0.3° below the median, and the lowest minimum was -5.3° on the 31<sup>st</sup> March, 1.0° below the median. The mean grass minimum was -0.5°, 2.1° below average and lowest since 1984. The lowest grass minimum was -12.0° on the 31<sup>st</sup> March, lowest since 2001. Mean earth temperature was 8.6° at 30 cm depth, 1.6° below average and lowest since 1986. The highest at 30 cm was 13.2° on the 28<sup>th</sup> May, lowest since before 1980. At 1 m depth, the mean was 8.2°, also 1.6° below average. Air frost duration was 164.9 hours, 110.6 hours above average and most for any spring since before 1982. The number of days with air frost is most since 1956, and with ground frost is most since 1984. **Rainfall:** This has been quite a wet spring, but 2 mm short of being in the wet category, and the total is almost the same as we had last spring. The wettest month was March with 71.4 mm, 156% of average. April was the driest with 37.6 mm, 78% of average. The wettest day was the 10<sup>th</sup> April with 12.6 mm, and the highest rainfall rate was 39 mm/hr on the 7<sup>th</sup> March. The duration of measurable rain was 163.7 hours, 137% of normal and highest since 2001. There were 5 dry spells, one of 5 days ended on the 5<sup>th</sup> March, another of 5 days on the 13<sup>th</sup> March, of 15 days on the 7<sup>th</sup> April, of 5 days on the 23<sup>rd</sup> April and of 6 days on the 3<sup>rd</sup> May. Snow was recorded on 10 days in March and 2 in April, but lay on only one day, the 23<sup>rd</sup> March, giving 2 cm depth at 0900 GMT. Small hail fell on 5 days in March, 3 in April and 2 in May, and there were 2 days with thunder in March and one in April. There was no instance of large hail. **Sunshine:** The total this spring puts it in the dull category. However, in 3 recent years, 2000, 2001 and 2006, the spring season had less sunshine than this year's. The sunniest day was 28<sup>th</sup> May with 13.2 hours. May, with 175 hours, was the sunniest month, but April with 101% had the most compared with average. March with just 63 hours, 57% of average, was one of the dullest for over a century. The 18 days with nil sun is highest for spring since 1984. Overall there were 43 days with <3 hours, 30 with =>6 hours, 16 with =>9 hours and 8 with =>12 hours. **Wind:** The mean speed of 7.7 mph this spring is 0.7 mph above average and highest since 1994. The 11<sup>th</sup> March with a mean of 16.6 mph was the windiest day, and the highest gust of 48 mph was also on that day. The least windy day was the 18<sup>th</sup> March, mean 2.8 mph, and there were 1432 minutes of calm (mean speed 0.5 mph or less). Daily mean direction/number of days: N,9 NE,30 E,7 SE,4 S,4 SW,24 W,6 NW,8. Compared with average, NE winds were 12.8% more frequent, at the expense of S winds, 8.8% down, and W winds, 5.2% down. **Pressure:** The highest pressure, 1035.9 mbar, occurred on the 20<sup>th</sup> April, and the lowest, 986.0 mbar, on the 15<sup>th</sup> May. **Humidity:** The mean relative humidity was 73.3% and the lowest was an exceptionally low 13% on the 2<sup>nd</sup> May. The mean water vapour content per kg of air was 4.9g at 0900 and 4.7g at 1500 GMT.

**March:** Very cold, wet and very dull with snow at times. Lowest mean temperature since 1962. Lowest mean max since 1916 and 2<sup>nd</sup> lowest in 132 years. The lowest max is lowest since 1979. Most days with air frost since 1962. Rainfall duration highest since 2001. Snow fell on 10 days, 7 more than average. One of the dullest Marches for over a century.

**April:** Rather cool overall with rainfall below average and near normal sunshine. 2<sup>nd</sup> coldest in the past 13 years. Lowest max lowest since 1989 and 5<sup>th</sup> lowest in 105 years. Mean grass min lowest since 1990. Mean earth temperature at 30cm lowest since 1986. Number of air frosts equal highest with 1968 in past 58 years. Windiest since 1994.

**May:** Mostly cool and often dull with rainfall near normal. Coldest since 1996. Highest max lowest since 1994 and lowest max lowest since 1996. Earth temperatures lowest since 1996. RH fell to 13% on 2<sup>nd</sup>, lowest for any day since before 1998.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Wind Mn mph	Max gust	Mean pressure	Anom
March	7.0°	-4.2°	0.1°	-3.1°	71.4	156%	63.1	57%	7.5	48	1008.9	-7.0
April	13.4°	-0.6°	3.5°	-0.9°	37.6	78%	162.3	101%	8.6	45	1015.5	+0.5
May	16.0°	-1.5°	6.0°	-1.5°	50.4	100%	175.1	92%	7.0	43	1012.7	-3.2



## 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 1981 to 2010. 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 1981 to 2010 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, 1<sup>st</sup> January to 31<sup>st</sup> 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  $-0.1^{\circ}\text{C}$  or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is  $-0.1^{\circ}\text{C}$  or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below  $0.0^{\circ}\text{C}$ , 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.

**Rainfall :** Rainfall is given in mm and tenths. "tr" ( trace) is entered when: a) precipitation has occurred but there is no water in the gauge. b) There is water in the gauge but it is less than 0.05 mm.

**Dry Spell :** A dry spell, for the purposes of the Wokingham climatological data and reports, is defined as a period of 5 or more consecutive dry days. A dry day is defined as one where the 24 hour precipitation measured at 09 GMT is not greater than 0.1 mm.

**Wind:** The following abbreviations may be used to denote wind directions :

Degrees are from true north

N = North =  $360^{\circ}$  and  $22.5^{\circ}$  either side.

NE = NorthEast =  $045^{\circ}$  and  $22.5^{\circ}$  either side.

E = East =  $090^{\circ}$  and  $22.5^{\circ}$  either side.

SE = SouthEast =  $135^{\circ}$  and  $22.5^{\circ}$  either side.

S = South =  $180^{\circ}$  and  $22.5^{\circ}$  either side.

SW = SouthWest =  $225^{\circ}$  and  $22.5^{\circ}$  either side.

W = West =  $270^{\circ}$  and  $22.5^{\circ}$  either side.

NW = NorthWest =  $315^{\circ}$  and  $22.5^{\circ}$  either side.

**Wind – terms for speed used in monthly reports:** When the following terms are used in the monthly reports, they will be based on the following unofficial criteria, (the day runs from 00 to 24 GMT) :

Term	Daily mean speed, knots		Highest hourly mean speed, knots		24 hour maximum gust, knots
Very light	3 or less	and	4 or less	and	8 or less
Light	3 to 6	or	4 to 8	or	8 to 16
Moderate	6 to 9	or	8 to 12	or	16 to 24
Fresh	9 to 12	or	12 to 16	or	24 to 32
Strong	12 to 15	or	16 to 20	or	32 to 40
Very strong	15 to 18	or	20 to 24	or	40 to 48
Near gale	18 to 21	or	24 to 28	or	48 to 56
Gale	21 to 24	or	28 to 32	or	56 to 64
Severe gale	24 to 27	or	32 to 36	or	64 to 72

B.J.Burton. 3 August 2009  
 Updated 8 Sept 2009,  
 4 Nov 2011

## 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.