

WOKINGHAM

METEOROLOGICAL

DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

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

Monthly Means and Totals

NOVEMBER 2012

Temperature (°C / °F)			Anomaly	Rank in the past 131 years			
Mean maximum	10.6	51.1	-0.3	44 th highest			
Mean minimum	3.4	38.1	-0.7	58 th highest			
Daily mean	7.0	44.6	-0.5	51 st highest			
Highest maximum	14.9	58.8	on 13 th	Lowest maximum	4.5	40.1	on 30 th
Highest minimum	10.4	50.7	on 14 th	Lowest minimum	-4.0	24.8	on 30 th
Mean grass minimum	0.4	32.7	-0.7	Lowest grass minimum	-8.8	16.2	on 30 th
Mean earth @30 cm	9.1	48.4	-0.3	Earth @100 cm	11.2	52.2	
Frost duration (hrs)	47.3			Rain duration (hrs)	68.6		
Rainfall total (mm / in)	83.4	3.28	121 %				
Highest daily fall	15.1	0.59	on 22 nd				
Number of: Dry days (<0.2mm)	16	Wet days (>0.9mm)	11	days ≥5mm	6		
Sunshine total (hrs) 84.7	Daily mean 2.82	118 %		Sunniest day 8.6		on 5 th	
N ^o days with: Air frost 8	Ground frost 16	Snow falling 0	Snow lying 0				
Thunder 0	Hail ≥5mm 0	Small hail/ice 0	Fog @09 1	Nil sun 5			
Pressure MSL : Mean @09 GMT, mbar 1009.5	-4.9	Highest 1027.8	on 13 th	Lowest 976.0		on 1 st	
Relative humidity : Mean (%) 87.6	Lowest 53	on 2 nd	Water vapour (g/kg), mean at 09 and 15 GMT 5.6,	5.5			
Overall mean wind speed (mph) 6.3	Windiest day 14.2	on 22 nd	Max gust 50	on 25 th			
Wind direction (days) N 4 NE 0 E 3 SE 1 S 5 SW 14 W 2 NW 1							
Least windy day (mph) 2.2	on 15 th	Calm; less than 0.5 mph (minutes) 525					

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

Notes:

Wet and Sunny with Temperatures Below Average.

The month started on a cool note, and although the 3rd was wet there was little further rain until the 19th, and it was milder after the 12th. It became very wet from the 19th to the 25th with near or above normal temperatures, but the month ended dry and cool. **Temperature:** The mean temperature this November is 3.1° below last year's, but 1.2° above that of 2010, and is 0.5° below the current climatological average. The highest max is 0.7° below the median and is lowest since 2008. Both the lowest max and highest min are on the median, while the lowest min is 0.4° below its median. A grass min of -8.8° on the 30th is the lowest such since the 16th April. Earth temperatures are a little below normal. The duration of air frost is 4.4 hours above average, but most only since 2010. The number of days with air frost is 2 more than average. **Rainfall:** This is the wettest November since 2009, and is 21% above average, though relatively dry compared to the amounts recorded in some other parts of the UK where serious flooding occurred. The highest daily fall is 1.1 mm below the median, and is 3rd lowest in the past 10 years. There was 1 more dry day than average, but also 2 more days with over 10 mm. Rainfall duration was 9.1 hours above average and 3rd highest in the past 10 years. There was no thunder or hail. The highest rainfall rate was 56 mm/hr at 2138 GMT on the 22nd. **Sunshine:** This has been a sunny November, the sunniest in the past 3 years. The daily mean is even 0.04 hours more than in October this year. The highest daily amount is most since 2006. There were 3 fewer sunless days than average. Overall there were 16 days with <3 hours and 5 with =>6 hours. **Commentary: From the 1st to the 19th:** Temperatures by day were below normal until the 7th, then near normal, apart from mild days on the 13th and 14th. Daily anomalies ranged from -3.9° on the 4th to +4.0° on the 13th. Daily minima were mostly below normal until the 7th, then near or above, except for cold nights on the 11th, 18th and 19th. Daily anomalies ranged between -7.2° on the 6th and +7.0° on the 14th. Twelve of the 19 days were dry, but it was wet on the 3rd with 13.6 mm, compared with 11.6 mm over the other 6 days with rain. 4 of the first 5 days were sunny, and the accumulation was nearly 20 hours in surplus by the 7th, but thereafter a rather mixed bag of values allowed the surplus to dwindle to near 15 hours by the 17th. Moderate SW'ly winds on the 1st veered N'ly on the 4th, falling light on the 5th, became moderate SW'ly on the 7th, backed light E'ly on the 14th, veered W'ly on the 17th and increased moderate S'ly on the 19th. **From the 20th to the 30th:** It was mild by day until the 24th, then became progressively colder. Anomalies for daily max ranged from -4.4° on the 30th to +4.3° on the 22nd. The sequence was similar for minima, with anomalies between -6.3° on the 30th to +6.3° on the 21st. It was very wet from the 20th to the 25th, with 55.0 mm in that period, which included one dry day. Rainfall then petered out, the month ending with 3 dry days. Sunshine was generally poor with 6 days having <10% of the maximum, the surplus falling to 6 hours by the 28th, but the final 2 days were sunny. Fresh S'ly winds on the 20th increased strong on the 22nd, became moderate E'ly on the 24th, then strong SW'ly on the 25th, veered fresh N'ly on the 27th and decreased light SW'ly by the 30th.

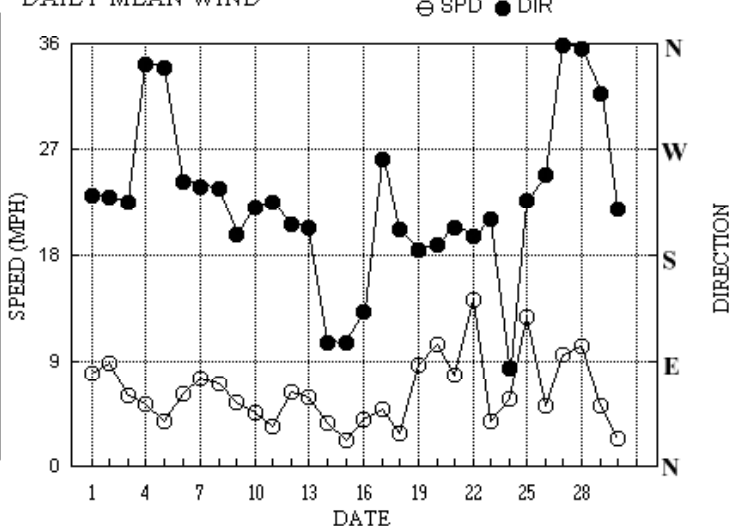
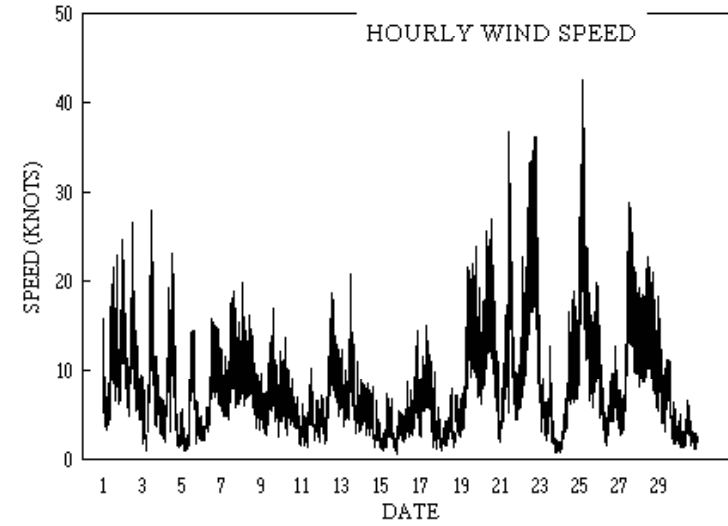
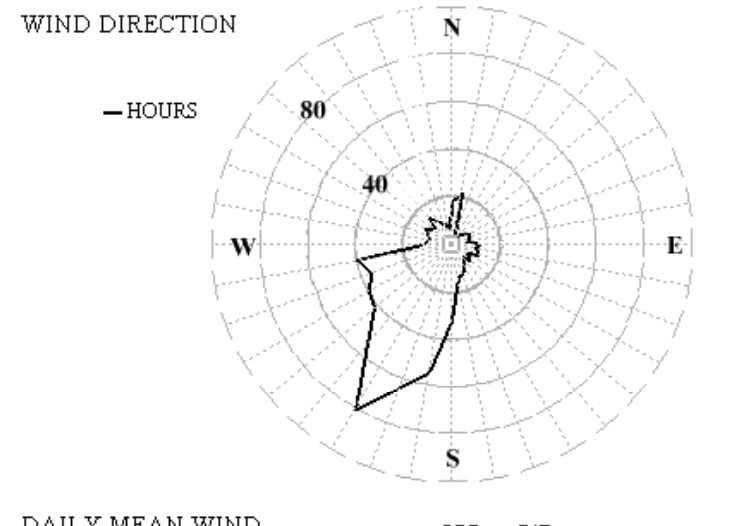
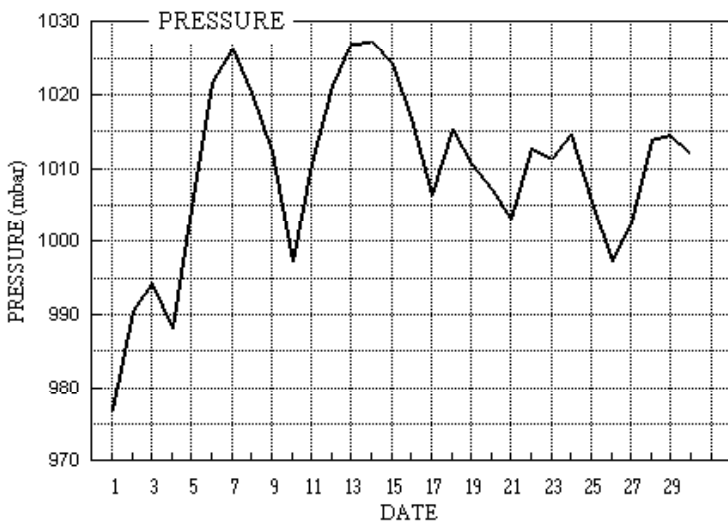
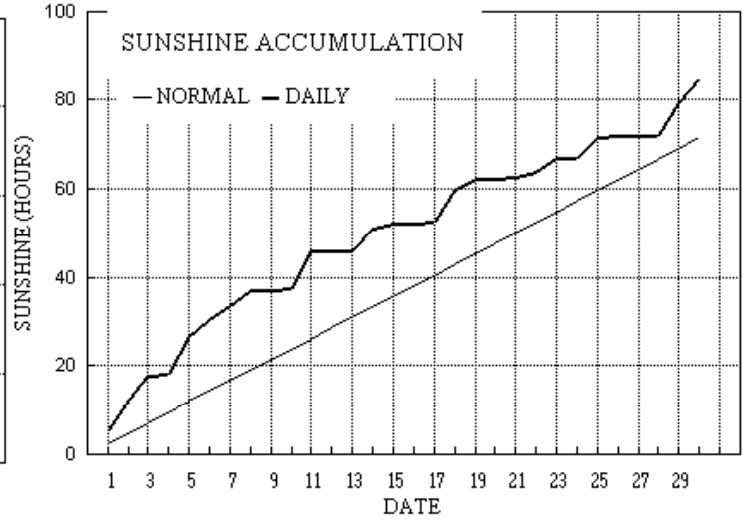
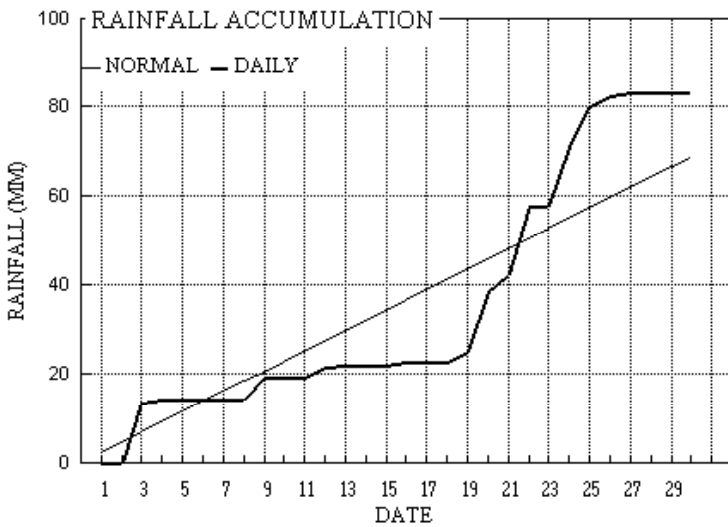
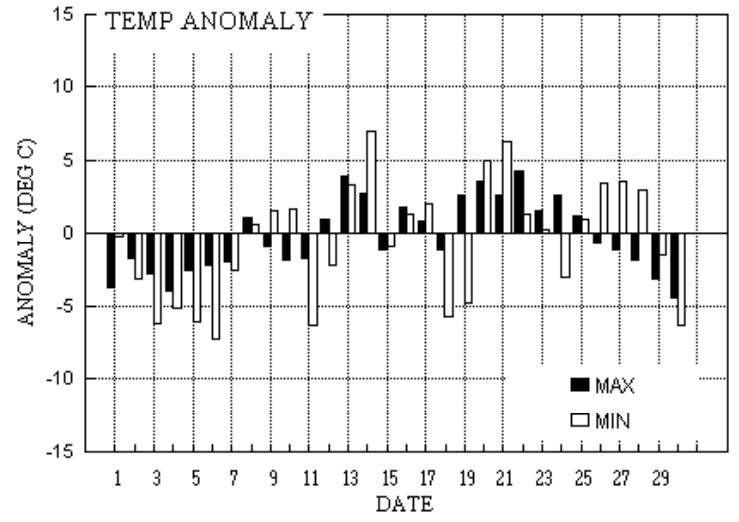
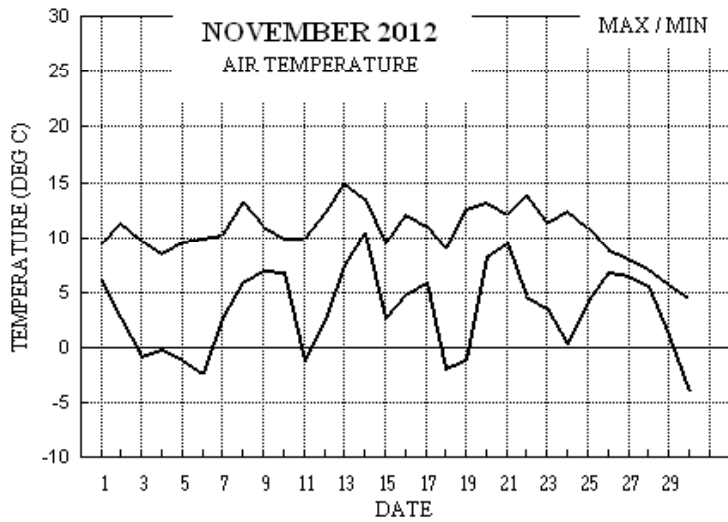
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
-2.0°	-2.6°	87%	160%	+1.3°	-0.1°	83%	105%	+0.1°	+0.8°	197%	97%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham Climatological Graphs for November 2012



Month: NOVEMBER 2012

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	9.5	6.0	tr	3.8	11.1	13.0	5.4	0.0	976.9	0 0 0 0	0 0 0 0	0 0 0 0	231	6.4	6.8	233	25	2345	256	11	14	0.0	
2	11.3	2.7	0.1	-1.5	10.7	12.8	7.0	0.0	990.5	1 1 0 0	0 0 0 0	0 0 0 0	230	7.4	7.6	270	27	1338	242	12	02	0.1	
3	9.8	-0.8	13.6	-4.6	10.1	12.7	5.5	1.7	994.3	1 1 0 0	0 0 0 0	0 0 0 0	225	4.6	5.2	258	28	1050	251	12	10	4.3	
4	8.5	-0.1	0.4	-5.0	9.5	12.5	0.2	2.4	988.2	1 1 0 0	0 0 0 0	0 0 0 0	342	0.9	4.6	274	23	1229	278	12	12	0.5	
5	9.7	-1.1	0.0	-5.5	9.2	12.3	8.6	3.3	1004.5	1 1 0 0	0 0 0 0	0 0 0 0	340	2.1	3.3	341	15	1502	9	8	12	0.0	
6	10.0	-2.3	0.2	-7.1	8.7	12.0	4.0	8.4	1021.6	1 1 0 0	0 0 0 0	0 0 0 0	243	5.0	5.3	260	16	1254	255	8	13	0.5	
7	10.2	2.7	tr	-0.7	8.7	11.8	3.2	0.0	1026.2	0 1 0 0	0 0 0 0	0 0 0 0	238	6.3	6.4	253	19	1512	253	9	15	0.0	
8	13.2	5.9	0.0	3.4	8.9	11.6	3.1	0.0	1020.1	0 0 0 0	0 0 0 0	0 0 0 0	237	6.0	6.2	219	20	0117	228	8	01	0.0	
9	11.1	7.0	5.2	2.0	9.2	11.4	0.3	0.0	1012.3	0 0 0 0	0 0 0 0	0 0 0 0	198	4.6	4.7	211	17	1419	200	7	14	6.1	
10	10.0	6.8	tr	4.3	9.4	11.3	0.3	0.0	997.3	0 0 0 0	0 0 0 0	0 0 0 0	221	3.6	4.0	185	14	0411	194	6	00	0.0	
11	9.9	-1.3	tr	-4.8	9.1	11.3	8.4	3.9	1010.5	1 1 0 0	0 0 0 0	0 0 0 0	225	2.5	2.9	323	11	1243	291	5	12	0.0	
12	12.3	2.4	2.3	-1.2	8.4	11.2	0.0	0.0	1021.2	0 1 0 0	0 0 0 0	0 0 0 0	206	5.2	5.5	201	19	1300	202	9	13	4.4	
13	14.9	7.4	0.1	4.3	8.9	11.1	0.2	0.0	1026.9	0 0 0 0	0 0 0 0	0 0 0 0	204	5.0	5.1	211	21	1132	205	9	11	0.1	
14	13.6	10.4	0.0	9.8	9.6	11.0	5.0	0.0	1027.3	0 0 0 0	0 0 0 0	0 0 0 0	105	2.4	3.1	156	9	0158	147	5	04	0.0	
15	9.5	2.6	tr	-1.9	9.4	11.0	1.1	0.0	1024.2	0 1 0 0	0 0 0 0	0 0 0 0	106	1.1	1.9	88	8	0835	67	3	11	0.0	
16	12.2	4.8	0.8	1.4	9.3	11.0	0.0	0.0	1016.7	0 0 0 0	0 0 0 0	0 0 0 0	132	3.1	3.5	151	15	2005	146	7	20	0.9	
17	11.1	5.9	tr	8.3	9.5	11.0	0.3	0.0	1006.4	0 0 0 0	0 0 0 0	0 0 0 0	262	2.5	4.1	265	15	0859	251	7	08	0.0	
18	9.0	-1.9	0.0	-6.3	9.5	10.9	7.5	5.5	1015.3	1 1 0 0	0 0 0 0	0 0 0 0	202	2.0	2.4	227	8	1444	172	4	19	0.0	
19	12.6	-1.1	2.5	-5.4	8.4	10.9	2.1	1.7	1010.5	1 1 0 0	0 0 0 0	0 0 0 0	184	7.4	7.6	197	24	1944	191	11	12	4.3	
20	13.2	8.2	13.4	9.0	8.7	10.8	0.0	0.0	1007.1	0 0 0 0	0 0 0 0	0 0 0 0	189	8.9	9.0	190	27	1448	190	13	12	12.8	
21	12.1	9.5	4.0	8.1	9.5	10.7	0.6	0.0	1003.0	0 0 0 0	0 0 0 0	0 0 0 0	203	3.4	6.7	298	37	1252	275	16	13	4.8	
22	13.8	4.7	15.1	-1.8	9.2	10.7	0.9	0.0	1012.6	0 1 0 0	0 0 0 0	0 0 0 0	196	12.1	12.3	200	36	2043	192	18	18	3.9	
23	11.3	3.5	0.1	-1.3	9.4	10.7	3.4	0.0	1011.3	0 1 0 0	0 0 0 0	0 0 0 0	211	3.0	3.3	244	16	0023	241	8	00	0.0	
24	12.4	0.3	13.0	-2.9	8.7	10.7	0.0	0.0	1014.7	0 1 0 0	0 0 0 1	83	4.5	4.9	111	19	1802	101	8	17	15.7		
25	10.9	4.2	9.4	4.0	8.8	10.6	4.3	0.0	1005.5	0 0 0 0	0 0 0 0	0 0 0 0	227	9.8	11.1	254	43	0451	251	19	04	6.8	
26	8.8	6.8	2.2	5.7	8.9	10.5	0.4	0.0	997.2	0 0 0 0	0 0 0 0	0 0 0 0	248	2.1	4.4	182	20	0025	185	10	00	2.6	
27	8.1	6.5	1.0	6.2	9.0	10.5	0.0	0.0	1002.4	0 0 0 0	0 0 0 0	0 0 0 0	358	7.6	8.3	14	29	1240	9	13	12	0.8	
28	7.2	5.6	tr	4.1	8.9	10.4	0.1	0.0	1014.0	0 0 0 0	0 0 0 0	0 0 0 0	356	8.8	8.9	358	23	1148	360	11	14	0.0	
29	5.8	1.0	0.0	-3.2	8.3	10.4	7.5	4.0	1014.6	0 1 0 0	0 0 0 0	0 0 0 0	317	3.9	4.4	351	19	0058	334	8	01	0.0	
30	4.5	-4.0	0.0	-8.8	7.2	10.3	5.3	16.4	1012.0	1 1 0 0	0 0 0 0	0 0 0 0	219	1.8	2.0	266	7	1112	249	3	14	0.0	
Total			83.4				84.7	47.3						220	2.8	5.5							68.6
Mean	10.6	3.4		0.4	9.1	11.2	2.82	1.6	1009.5														
Anom	-0.3	-0.7	121%	-0.7	-0.3	-0.6	118%			-4.9													
Daily mean		7.0																					
Anom		-0.5																					

Number of days with:

Air frost = 8 Ground frost = 16 Nil sun = 5
Snow falling = 0 Snow lying = 0 Thunder = 0
Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 1

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for NOVEMBER 2012

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	hCr	Ch	NCh	shs	NCh	shs	Date	Remarks
1	70	2	20	05	09	6.9	6.1	95	6.1	976.9	2	007	03	6	1	1	8	3	6	3	81808		1	1Sc35 1Ac60 2Ci70 Cu fra Cb tops W-N&S Parheliion	
2	84	2	21	06	11	5.7	3.2	84	4.9	990.5	2	005	02	0	0	1	0	9	6	3	81364		2	2Ci70 Cb tops all quads ex N	
3	80	1	23	09	16	5.9	4.7	92	5.4	994.3	3	006	01	0	0	1	5	6	6	3	81630		3	1Ac65 1Ci68 Cb tops W&N	
4	57	8	06	07	17	5.2	4.7	96	5.4	988.2	7	062	65	6	6	7	7	2	2	83704	85710	88520	4		
5	62	3	01	04	06	4.9	4.7	98	5.3	1004.5	2	028	01	4	1	1	0	9	3	2	81365		5	2Ci72 COTRA	
6	58	2	21	03	06	2.7	2.1	96	4.4	1021.6	2	016	10	0	0	1	0	9	7	1	81358		6	1Ac65 2Ci75 COTRA Hoar mod in shade	
7	57	1	20	05	10	5.9	5.1	94	5.4	1026.2	3	015	10	0	0	1	6	2	0	1	81705		7	1Ci80 COTRA	
8	75	5	23	07	14	8.4	6.7	89	6.0	1020.1	0	004	01	2	2	4	5	4	0	2	82712	83635	8	1Cc70 2Ci72 Parheliion	
9	86	7	19	05	08	8.8	5.4	79	5.6	1012.3	7	017	02	2	2	7	8	6	7	81830	87640	9	Cu hum		
10	62	8	23	05	10	8.2	7.6	96	6.6	997.3	2	002	60	6	2	1	7	3	7	81706	86358	88462	10	1Sc56	
11	30	0	22	02	04	2.4	2.1	98	4.4	1010.5	2	029	10	0	0	0	0	9	0	0			11	Hoar mod in shade Gnd frzn	
12	65	8	18	05	09	7.4	6.2	92	5.8	1021.2	2	007	21	6	2	5	5	4	7	81712	85656	88358	12	1Sc30	
13	72	7	20	05	08	11.5	10.5	93	7.8	1026.9	2	018	02	2	2	7	5	6	7	87640			13		
14	65	7	14	04	09	10.6	8.9	89	7.0	1027.3	3	007	02	2	2	7	6	3	7	82707	87710		14		
15	40	8	11	04	08	6.7	6.2	97	5.8	1024.2	1	002	10	2	2	8	6	3	7	85706	88710		15		
16	11	8	11	04	09	5.9	5.1	94	5.4	1016.7	7	009	50	5	4	8	6	2	7	83703	88704		16		
17	80	8	27	08	15	10.4	9.3	93	7.3	1006.4	3	014	60	6	2	8	5	3	7	86708	88612		17		
18	80	1	20	01	05	0.6	0.2	97	3.8	1015.3	1	014	02	0	0	0	0	9	0	1	81080			18	Hoar mod
19	80	7	18	07	15	8.3	4.4	76	5.2	1010.5	7	008	02	2	2	1	5	6	0	8	81630	84275	87080	19	COTRA
20	70	8	19	11	21	12.5	11.3	92	8.4	1007.1	2	001	50	6	5	8	5	3	7	82708	85710	87618	20	8Sc30	
21	56	8	15	07	16	9.7	8.9	94	7.1	1003.0	7	014	61	6	6	7	5	3	2	83707	87612	88550	21		
22	62	7	19	11	21	11.9	9.5	85	7.3	1012.6	7	003	25	8	1	6	8	4	1	81712	85818	85070	22	2Sc35 Cu med	
23	78	6	18	03	07	5.4	4.8	96	5.3	1011.3	2	028	03	1	1	2	0	9	7	81368	86272		23	2As69 COTRA	
24	05	8	06	04	07	4.3	4.1	99	5.1	1014.7	7	009	60	6	4	7	6	0	2	83701	87705	88550	24	Fog thinning rapidly	
25	82	1	25	12	22	7.0	2.8	75	4.7	1005.5	2	044	02	0	0	1	1	4	0	2	81818			25	1Ci70 1Cs75 Cu fra Cs edge N
26	59	7	05	01	04	7.4	6.7	96	6.2	997.2	2	001	21	6	2	7	5	2	7	81705	83612	86640	26	/Ac58 /Ci70	
27	58	7	35	05	11	7.3	6.4	94	6.0	1002.4	2	021	60	6	2	7	5	3	7	83708	85630	87640	27	2Sc15	
28	63	7	36	09	19	6.0	2.9	81	4.7	1014.0	3	010	15	2	2	7	5	4	7	85615	87630		28	jpNW vv40k ex p	
29	72	2	27	03	07	1.9	-0.9	81	3.5	1014.6	3	003	02	0	0	2	5	5	0	0	82620			29	Hoar slt Sc len
30	40	3	20	01	03	-2.1	-2.5	97	3.1	1012.0	2	010	10	0	0	1	5	6	0	1	81635	83080		30	1Ac65 COTRA Hoar thk Gnd frzn

Mean vis = 18.1 km
 Mean cloud = 5.2 65%
 Mean wind speed = 5.4 kn
 Mean gust = 11 kn
 Mean TT = 6.6 °C
 Mean TdTd = 5.2 °C
 Mean RH = 91.3 %
 Mean r = 5.6 g/kg
 Mean PPP = 1009.5 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)
 N = Total cloud amount, oktas
 dd = Direction from which wind is blowing, tens of degrees true
 ff = 10 minute mean wind speed, knots
 gg = Highest gust in past hour, knots
 TT = Air temperature at 1.2 m, deg Celsius
 TdTd = Dew point temperature at 1.2 m, deg Celsius
 RH = Relative humidity at 1.2 m
 r = Humidity mixing ratio at 1.2 m, g/kg
 PPP = Air pressure reduced to sea level, mbar
 a = Characteristic of pressure tendency (Code FM12-0200)
 ppp = 3 hr pressure tendency, tenths of mbar
 ww = Present weather code (Code FM12-4677)
 W1, W2 = Past weather code (Code FM12-4561)-
 covers past 3 hours.
 Nh = Amount of low cloud present, oktas
 Cl = Type of low cloud (Code Fm12-0513)
 h = Height of low cloud (Code FM12-1600)
 Cm = Type of medium cloud (Code FM12-0515)
 Ch = Type of high cloud (Code FM12-0509)
 8 groups. 8 = indicator for cloud detail
 N = Amount of cloud, oktas
 C = Type of cloud (FM12-0500)
 hshs= Height of cloud (FM12-1677)
 Remarks : COTRA = persistent condensation
 trails present.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for NOVEMBER 2012

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	Date	Remarks
1	89	2	26	09	22	8.2	1.8	64	4.5	980.4	2	028	01	8	1	1	8	5	4	3	81825				1	1Sc40 1Ac62 1Ci70 Cu med Cb top W
2	89	2	25	10	18	7.7	2.3	68	4.6	991.6	3	011	01	8	1	1	2	5	6	3	81825				2	1Ac62 2Ci70 Cu med
3	86	7	24	07	18	7.9	1.6	64	4.3	997.6	3	011	03	1	1	1	8	6	7	8	81830	83463	87270		3	1Sc45 1Ac65 COTRA Cu hum
4	82	7	29	06	18	4.9	3.2	89	4.9	993.8	1	046	02	5	2	7	5	4	/	/	82712	87615			4	
5	82	1	35	08	14	8.4	1.5	62	4.2	1009.5	2	023	02	0	0	1	1	5	0	0	81825				5	Cu hum
6	63	8	25	07	16	9.8	4.8	71	5.3	1021.2	6	005	60	6	2	7	5	6	2	/	82630	86640	88158		6	
7	70	7	26	09	17	9.8	5.3	73	5.5	1024.6	7	013	02	2	2	7	5	5	/	/	87620				7	
8	86	7	26	06	14	11.7	4.3	60	5.1	1018.5	6	004	02	1	1	7	8	6	/	/	81830	87635			8	Cu hum
9	75	7	21	07	17	11.0	6.6	74	6.1	1006.7	7	030	01	5	2	7	8	5	/	/	82820	83630	86635		9	Cu med
10	80	7	24	04	09	9.3	7.1	86	6.4	996.0	6	003	01	2	2	3	8	4	3	8	81812	83656	86362		10	/Cs70 Absent vv&cld est
11	82	1	25	04	07	9.3	2.4	62	4.5	1015.0	3	020	02	0	0	1	1	5	0	1	81828				11	1Ci80
12	58	8	20	09	18	11.0	10.1	95	7.6	1019.6	6	007	51	6	5	8	5	3	/	/	83706	87709	88620		12	
13	75	8	20	05	14	13.5	10.8	84	7.9	1026.3	6	003	15	8	2	8	8	4	/	/	82712	88640			13	Cu med jpSE
14	80	2	06	04	08	12.1	6.1	67	5.8	1024.6	6	016	02	0	0	0	0	9	0	1	82080				14	COTRA
15	58	6	07	01	05	8.1	4.7	79	5.3	1020.9	7	019	05	1	1	5	5	4	0	1	85615	83080			15	COTRA
16	03	8	10	02	07	8.2	7.7	96	6.5	1012.6	7	023	60	5	4	8	6	0	/	/	88701				16	
17	88	7	35	01	10	9.9	6.3	78	5.9	1008.1	2	005	03	2	2	4	8	4	7	/	81818	84635	87365		17	2As62 Cu hum
18	85	6	25	03	08	7.8	0.4	59	3.9	1015.4	6	003	03	1	1	1	1	6	0	6	81830	83275	86080		18	COTRA Cu hum Parhelion
19	78	8	19	09	19	10.1	6.4	78	6.0	1008.8	7	007	60	6	2	7	5	5	7	/	82620	87625	88358		19	
20	56	8	19	10	27	12.1	10.6	90	8.0	1006.9	7	002	58	6	5	6	5	4	2	/	83710	84620	88530		20	
21	70	7	27	14	29	7.1	5.8	91	5.7	1008.0	3	079	61	6	2	7	5	4	2	/	87612	87530			21	vv60k W Clearance SW-W
22	65	8	19	18	31	12.6	6.9	68	6.2	1008.1	7	026	15	2	2	7	5	5	7	/	82625	87635			22	/Ac62
23	84	5	21	03	09	8.4	4.9	78	5.4	1012.9	3	002	02	2	2	1	2	5	3	1	81825	85075			23	1Ac69 1Cc72 COTRA Cu med Parhelion
24	57	8	07	06	15	8.2	7.9	98	6.7	1007.4	7	042	61	6	6	7	7	2	2	/	82705	87707	88520		24	
25	75	7	22	09	16	10.5	7.5	82	6.5	1005.7	7	009	25	8	2	7	8	4	/	1	81818	85645	86656		25	/Ci75 Cu fra jpW&S vv50k ex p
26	62	8	31	04	09	8.0	6.0	87	5.9	997.3	3	006	60	6	2	8	8	4	/	/	81810	87625	88635		26	Cu med
27	80	7	01	13	28	7.2	4.8	85	5.4	1006.2	2	021	60	6	2	7	5	4	/	/	82712	86618	87625		27	
28	80	7	36	13	22	6.5	2.3	75	4.5	1014.1	5	002	25	8	2	7	8	5	/	/	84820	86630			28	Cu hum jpSE
29	72	3	31	04	11	4.8	0.6	74	4.0	1012.4	7	012	03	0	0	1	5	5	3	2	81625				29	2Ac68 2Ci72 Parhelia
30	63	7	25	03	06	3.8	0.3	78	3.9	1011.8	6	004	03	1	1	1	5	6	3	8	81635	87272			30	1Ac68 COTRA Halo 22° part Parhelion

Mean vis = 31.1 km
 Mean cloud = 6.1 77%
 Mean wind speed = 6.9 kn
 Mean gust = 15 kn
 Mean TT = 8.9 °C
 Mean TdTd = 5.0 °C
 Mean RH = 77.2 %
 Mean r = 5.5 g/kg
 Mean PPP = 1009.4 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)
 N = Total cloud amount, oktas
 dd = Direction from which wind is blowing, tens of degrees true
 ff = 10 minute mean wind speed, knots
 gg = Highest gust in past hour, knots
 TT = Air temperature at 1.2 m, deg Celsius
 TdTd = Dew point temperature at 1.2 m, deg Celsius
 RH = Relative humidity at 1.2 m
 r = Humidity mixing ratio at 1.2 m, g/kg
 PPP = Air pressure reduced to sea level, mbar
 a = Characteristic of pressure tendency (Code FM12-0200)
 ppp = 3 hr pressure tendency, tenths of mbar
 ww = Present weather code (Code FM12-4677)
 W1, W2 = Past weather code (Code FM12-4561)-
 covers past 3 hours.
 Nh = Amount of low cloud present, oktas
 Cl = Type of low cloud (Code Fm12-0513)
 h = Height of low cloud (Code FM12-1600)
 Cm = Type of medium cloud (Code FM12-0515)
 Ch = Type of high cloud (Code FM12-0509)
 8 groups. 8 = indicator for cloud detail
 N = Amount of cloud, oktas
 C = Type of cloud (FM12-0500)
 hshs= Height of cloud (FM12-1677)
 Remarks : COTRA = persistent condensation
 trails present.

Wokingham		Hour	01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov
Sunshine		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis		1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012		4	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
		5	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
		6	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
		7	0.11	0.09	0.00	0.00	0.32	0.37	0.33	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00
		8	0.93	0.57	0.92	0.00	1.00	1.00	1.00	0.00	0.02	0.00	1.00	0.00	0.00	0.00	0.00	0.00
		9	0.72	1.00	1.00	0.00	1.00	1.00	1.00	0.86	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
		10	0.99	1.00	0.99	0.24	1.00	1.00	0.86	0.85	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
		11	0.44	0.82	0.97	0.00	1.00	0.66	0.00	0.69	0.00	0.00	1.00	0.00	0.22	0.97	0.00	0.00
		12	0.01	0.96	0.54	0.00	0.98	0.01	0.04	0.57	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
		13	0.18	0.51	0.86	0.00	0.92	0.00	0.00	0.03	0.00	0.00	1.00	0.00	0.00	1.00	0.62	0.00
		14	0.83	0.72	0.17	0.00	1.00	0.00	0.00	0.06	0.05	0.00	1.00	0.00	0.00	1.00	0.48	0.00
		15	0.91	0.97	0.00	0.00	1.00	0.00	0.00	0.00	0.25	0.32	1.00	0.00	0.00	1.00	0.00	0.00
		16	0.30	0.36	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.08	0.00	0.00
		17	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
		18	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
		19	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
		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			5.41	7.00	5.45	0.25	8.55	4.04	3.23	3.06	0.31	0.32	8.43	0.00	0.22	5.05	1.10	0.00

Hour	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov	Mean
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	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
6	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
7	0.00	0.12	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
8	0.00	1.00	0.45	0.00	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.00	0.80	0.81	0.35
9	0.01	1.00	0.72	0.00	0.00	0.00	0.00	0.00	1.00	0.11	0.00	0.00	1.00	1.00	0.41
10	0.06	1.00	0.75	0.00	0.00	0.00	0.00	0.00	0.98	0.05	0.00	0.00	1.00	1.00	0.43
11	0.19	1.00	0.10	0.00	0.04	0.36	0.91	0.00	1.00	0.06	0.00	0.02	0.99	1.00	0.41
12	0.01	1.00	0.00	0.00	0.00	0.22	1.00	0.00	0.19	0.21	0.00	0.00	1.00	0.50	0.31
13	0.04	1.00	0.00	0.00	0.00	0.29	1.00	0.00	0.00	0.00	0.00	0.05	1.00	0.34	0.30
14	0.00	1.00	0.00	0.00	0.00	0.00	0.44	0.00	0.24	0.00	0.00	0.00	1.00	0.60	0.29
15	0.00	0.36	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.23
16	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	0.04
17	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
18	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
19	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
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
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	0.31	7.47	2.08	0.00	0.57	0.87	3.36	0.00	4.32	0.43	0.00	0.07	7.47	5.26	84.62

November 2012	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	6.37	9.3	1432	2.8	2058	85.4	96.2	724	63.1	1502	4.02	5.27	6.7	51	4.1	1955	979.93	987.1	2341	976.0	422	4.9
2	5.72	10.9	1303	2.2	2217	79.0	91.0	2358	52.8	1321	2.23	4.55	5.2	1112	4.0	2216	991.47	996.0	2225	986.8	6	0.2
3	4.20	9.6	1319	-0.6	518	82.8	97.7	730	58.5	1210	1.34	4.27	5.5	920	3.6	520	996.57	1000.0	2155	993.4	718	0.2
4	3.32	8.6	1031	-0.9	2240	93.2	97.5	2326	84.6	1719	2.32	4.62	6.9	1029	3.5	2240	994.19	999.6	13	986.5	1028	10.4
5	3.66	9.6	1307	-1.0	36	88.6	98.5	726	61.0	1440	1.79	4.37	6.1	1021	3.5	2357	1007.26	1017.5	2359	998.3	0	0.1
6	4.85	10.1	1238	-2.1	507	87.4	97.8	650	67.8	1240	2.81	4.72	6.2	1824	3.1	508	1021.08	1023.7	2358	1017.4	0	0.4
7	7.69	10.1	1305	4.0	721	84.0	95.5	758	72.8	1502	5.09	5.39	6.1	1040	4.7	719	1024.66	1026.6	1053	1022.3	2350	0.0
8	9.30	12.9	1215	7.4	2344	77.9	90.1	904	58.4	1235	5.55	5.60	7.0	1022	5.0	1752	1019.29	1022.5	0	1017.1	2359	0.0
9	8.70	11.2	1505	6.6	2120	80.5	89.1	2131	69.9	1536	5.51	5.63	6.9	1337	5.0	111	1009.32	1017.2	1	1000.4	2356	0.0
10	7.50	10.0	409	0.9	2351	92.4	97.3	2358	82.6	0	6.34	6.09	7.3	413	4.0	2351	997.85	1002.3	2358	995.9	1442	4.5
11	3.87	9.8	1404	-0.9	507	88.8	98.7	804	61.7	1501	2.04	4.42	5.9	1123	3.5	507	1012.37	1020.3	2318	1002.2	0	0.1
12	8.57	12.3	1747	3.0	52	94.2	96.4	749	90.4	955	7.70	6.59	8.4	1803	4.3	52	1020.86	1023.8	2325	1019.4	1517	1.7
13	11.77	14.7	1120	8.6	509	89.5	96.7	543	74.5	1121	10.08	7.56	8.2	1026	6.5	509	1026.16	1027.8	2135	1023.5	0	0.1
14	9.42	13.6	1327	2.7	2359	87.1	96.2	2357	64.3	1517	7.28	6.33	7.7	312	4.4	2359	1026.18	1027.5	3	1024.4	1442	0.1
15	6.32	9.5	1341	2.7	0	91.8	97.8	715	75.3	1354	5.04	5.38	6.1	1133	4.4	0	1022.55	1025.4	0	1019.3	2357	0.0
16	7.60	10.3	2354	5.8	820	93.5	97.8	1748	85.2	426	6.64	6.10	7.5	2354	5.0	417	1014.13	1019.3	3	1007.2	2359	0.3
17	9.73	12.2	612	3.5	2356	88.1	97.0	402	73.7	1404	7.82	6.69	8.5	510	4.4	2356	1007.94	1012.4	2358	1004.8	533	0.3
18	2.84	9.0	1329	-1.5	653	86.5	97.8	802	55.4	1437	0.64	3.98	5.2	1148	3.3	653	1014.85	1016.3	1857	1012.3	1	0.1
19	7.28	11.0	1033	-0.7	149	84.8	95.5	300	64.8	1035	4.79	5.47	7.4	2358	3.4	204	1010.37	1015.0	1	1008.3	1534	0.1
20	11.87	13.1	1056	9.8	2341	92.4	95.7	2306	88.9	1421	10.69	8.02	8.5	1056	7.1	2341	1007.68	1009.0	39	1006.6	1437	9.7
21	8.41	11.6	1130	4.6	1933	93.4	97.1	209	87.1	1634	7.41	6.49	8.2	1128	4.8	1923	1007.78	1015.6	2252	1000.0	1241	4.4
22	11.05	13.6	1159	5.8	3	80.7	94.3	32	67.0	1953	7.76	6.58	7.5	854	5.3	3	1009.98	1015.4	2	1003.5	2129	12.2
23	5.72	11.3	1323	0.7	2338	92.0	97.9	2359	73.7	1325	4.48	5.26	6.7	1228	3.9	2338	1011.87	1016.7	2352	1006.3	112	2.2
24	5.74	10.7	2359	0.2	236	98.4	99.1	511	97.3	2121	5.50	5.77	8.0	2359	3.8	236	1008.79	1016.6	4	990.3	2359	7.6
25	9.49	12.3	103	6.5	735	83.1	98.2	0	67.6	1202	6.72	6.23	8.9	103	4.5	711	1002.00	1007.0	1038	988.3	105	4.6
26	7.71	10.5	23	6.5	2358	91.3	96.5	1001	76.3	18	6.37	6.04	6.7	1000	5.6	2358	998.22	1000.4	33	996.5	1233	6.6
27	6.98	8.1	1011	6.0	2036	88.0	94.9	645	77.7	1902	5.11	5.51	6.3	1011	4.7	1758	1004.90	1012.0	2312	999.5	128	1.3
28	5.56	7.2	1305	2.3	2359	78.1	83.1	1034	71.7	1640	2.04	4.40	4.9	1034	3.5	2359	1014.02	1015.7	2041	1011.6	8	0.0
29	1.86	5.8	1322	-2.4	2345	82.1	96.1	2359	69.7	1325	-0.94	3.54	4.0	1321	3.0	2345	1013.24	1015.1	9	1011.5	2343	0.0
30	-0.47	4.4	1351	-3.8	721	92.2	97.4	732	75.6	1352	-1.62	3.38	4.1	1214	2.8	721	1012.34	1015.0	2349	1010.7	421	0.2
Total																						72.3
Mean	6.75	10.44		2.62		87.6	95.83		72.31		4.75	5.48	6.75		4.28		1009.60	1013.95		1004.68		
Max	11.87	14.74		9.75		98.4	99.10		97.30		10.69	8.02	8.89		7.13		1026.18	1027.76		1024.44		
Min	-0.47	4.36		-3.79		77.9	83.10		52.77		-1.62	3.38	4.02		2.78		979.93	987.09		975.96		

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

AUTUMN 2012

Temperature (°C)				Rank in the past 131 years					
Mean maximum	14.6	(-0.6)		64 th highest					
Mean minimum	6.2	(-0.9)		61 st highest					
Daily mean	10.4	(-0.7)		64 th highest					
Rainfall total (mm)	248.4	(128%)		21 st highest					
Sunshine total (hours)	354.5	(109%)							
N° of:	Dry days	41 (-9)	Wet days	35 (+5)					
Days with:	Air frost	10 (+12)	Ground frost	30 (+8)	Snow falling	1 (0)	Snow lying	0 (0)	
Thunder	2 (-1)	Hail ≥5mm	1 (0)	Small hail/ice	0 (-1)	Fog @09 GMT	4 (0)	Nil sun	14 (-1)
Air pressure MSL : Mean @09 GMT (mbar)	1011.9	(-3.2)							

Departure from 1981 to 2010 average shown in brackets.

Notes:

Wet with Below Average Temperature but Quite Sunny.

Temperature: Although the mean temperature is below the current 30 year climatological average, in the longer term the mean maximum, the mean minimum and the overall mean lie exactly on the 131 year median, indicating an equal number of autumns have been warmer or colder than this one. While the mean this autumn is 2.6° lower than last year's, we only have to look back one more year to find a colder one, however, this is the 2nd coldest autumn since 1993. Each of the months this season were on the cool side, with September's anomaly for the mean temperature of -0.9° the largest of the 3, and November's -0.5° the smallest. The highest temperature recorded was 27.9° on the 9th September, 3.4° above the median, and the lowest was -4.0° on the 30th November, exactly on the median. The lowest maximum was 4.5° on the 30th November, also on the median, while the highest minimum was 15.6° on the 10th September, 0.3° above the median. The mean grass minimum of 3.0° is lowest since 1993, but the lowest grass minimum of -8.8° on the 30th November is lowest only since 2010. Mean earth temperatures are slightly below average. A new autumn high daily temperature range of 22.7° occurred on the 9th September, equalling the highest at any time of the year since before 1976 set in June 1995. The duration of air frost is close to average. The number of days with ground frost is 8 more than average and most since 1986. The first ground frost of the winter half year actually occurred one day before the start of the autumn season after 106 frost free days. The first air frost was on the 14th October after 180 days free of air frost. **Rainfall:** This has been a wet autumn, wettest since 2006, with 28 % more rain than average. Both October and November were wet months, and October was the wettest with 163 % of average, and September the driest with 89 % of average. Despite the wet nature of the season the highest daily fall was only 19.4 mm on the 5th October, 5.3 mm below the median, but the number of days with 10 mm or more, 10, is highest since 2006 and 4th highest in 36 years. The number of dry days is 9 below average and the total duration of measurable rain, 174.7 hours, is 27.5 hours above average. Thunder occurred on two days, both in October, and there was also hail on the 13th October, as well as brief sleet on the 27th October. The highest rainfall rates were 205 mm/hr on the 12th September and 170 mm/hr on the 17th October. **Sunshine:** This autumn had sunshine figures just above normal, less sunny than last autumn but sunnier than 2010. Both September and November had above average sunshine, but October fared poorly and actually had a lower mean daily sunshine than November. The sunniest day was the 7th September with 12.7 hours, but the 4 day period to the 8th September is worthy of mention having 49.7 hours in total, a mean of 12.4 hours per day. At the other extreme the 8 day period to the 26th October had only 1.8 hours, a mean of 0.2 hours per day. Overall there were 14 days with nil sun, 45 with <3 hours, 26 with =>6 hours, 11 with =>9 hours and 4 with =>12 hours. **Wind:** The overall mean wind speed was 6.5 mph, 0.4 mph above the 25 year average. The 22nd November was the windiest day, mean speed 14.2 mph, and the season's highest gust of 50 mph was on the 25th November. The least windy days were the 7th October and 15th November, both mean 2.2 mph, and there were 1517 minutes of calm this season. Daily mean direction/number of days: N,9 NE,9 E,5 SE,2 S,10 SW,41 W,12 NW,3. Compared with average, winds from SW were 13.5% more frequent at the expense of winds between E and S down 12.4% and also NW, down 4.1%. **Humidity:** The overall mean relative humidity was 83.3 % and the lowest value was 20 % on the 8th September. The mean water vapour content per kg of air was 6.7 g at 0900 GMT and 6.5 g at 1500 GMT.

September: Very sunny with below average rainfall and temperature. Lowest mean temperature since 1996. Mean grass min 2nd lowest in 33 years. Most ground frosts since 1987. Sunniest month of the year.

October: Dull and wet with below average temperature. Mean max temperature lowest since 1993. Highest max equal lowest since 1982. Wettest since 2000. Number of dry days fewest since before 1976. Dullest since 2000.

November: Wet and sunny with below average temperature.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Wind Mn mph	Max gust	Mean pressure	Anom
Sept.	19.3°	-0.1°	8.3°	-1.7°	47.6	89%	183.7	128%	6.4	33	1015.6	-1.1
Oct.	13.9°	-1.3°	6.8°	-0.4°	117.4	163%	86.1	77%	6.3	36	1010.7	-3.6
Nov.	10.6°	-0.3°	3.4°	-0.7°	83.4	121%	84.7	118%	6.3	50	1009.5	-4.9

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

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, 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.

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° and 22.5° either side.

NE = NorthEast = 045° and 22.5° either side.

E = East = 090° and 22.5° either side.

SE = SouthEast = 135° and 22.5° either side.

S = South = 180° and 22.5° either side.

SW = SouthWest = 225° and 22.5° either side.

W = West = 270° and 22.5° either side.

NW = NorthWest = 315° and 22.5° 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.