

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 2011

Temperature (°C / °F)			Anomaly	Rank in the past 130 years			
Mean maximum	13.5	56.3	+2.6	*New highest*			
Mean minimum	6.6	43.9	+2.5	2 nd highest			
Daily mean	10.1	50.2	+2.6	2 nd highest			
Highest maximum	17.9	64.2	on 13 th	Lowest maximum	9.0	48.2	on 16 th
Highest minimum	11.1	52.0	on 4 th	Lowest minimum	-2.5	27.5	on 28 th
Mean grass minimum	3.9	39.0	+2.8	Lowest grass minimum	-7.2	19.0	on 28 th
Mean earth @30 cm	11.8	53.2	+2.4	Earth @100 cm	13.6	56.5	
Frost duration (hrs)	9.2			Rain duration (hrs)	26.9		
Rainfall total (mm / in)	48.1	1.89	70 %	50 th lowest			
Highest daily fall	32.4	1.28	on 3 rd				
Number of: Dry days (<0.2mm)	16	Wet days (>0.9mm)	7	days ≥5mm	1		
Sunshine total (hrs) 69.8	Daily mean 2.33	98 %		Sunniest day 7.0	on 25 th		
N ^o days with: Air frost 1	Ground frost 6	Snow falling 0	Snow lying 0				
Thunder 1	Hail ≥5mm 0	Small hail/ice 0	Fog @09 4	Nil sun 7			
Pressure MSL : Mean @09 GMT, mbar 1017.3	+2.9	Highest 1030.4	on 25 th	Lowest 989.4	on 4 th		
Relative humidity : Mean (%) 88.9	Lowest 48	on 27 th	Water vapour (g/kg), mean at 09 and 15 GMT 6.9,	7.0			
Overall mean wind speed (mph) 6.0	Windiest day 13.1	on 29 th	Max gust 38	on 29 th			
Wind direction (days) N 4 NE 0 E 10 SE 4 S 6 SW 5 W 1 NW 0							
Least windy day (mph) 2.5	on 22 nd	Calm; less than 0.5 mph (minutes) 566					

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

Notes:

Very Mild with Below Normal Rainfall and Near Normal Sunshine

Temperature: Yet another remarkable month producing the highest November mean maximum on record, 0.3° above the previous highest in 1994. Both the mean min and mean temperature are highest since 1994 and 2nd highest since before 1882. The highest max is 2.3° above the median, but is 2.5° below the record set in 1938. The lowest max is 4.4° above the median and is 2nd highest after 1994 in the past 99 years. The highest min is a more normal 0.5° above the median, while the lowest min is 1.1° above its median. The mean grass minimum is also highest since 1994. Earth temperatures at 30cm and 1m depth are well above normal, and are highest since 1979 at 30cm. The number of hours with air frost is 33.5 below average, but there have been 3 Novembers in the past 31 years with none. The number of days with ground frost is 7 fewer than average. **Rainfall:** The month as a whole was on the dry side, and the accumulation ended up 30 % below average. However, the main event was the exceptional daily fall in the 24 hours up to 0900 on the 4th, when 32.4 mm was recorded, making it the 3rd wettest November day in 108 years and wettest since 1951, which holds the record of 38.3 mm. After the 5th, the greatest daily fall was 2.0 mm on the 30th. A dry spell of 7 days ended on the 18th, and the number of dry days is just above the average. Total rainfall duration is 32.1 hours below average. The highest rainfall rate was 66 mm/hr on the 4th. Thunder occurred in the early hours of the 4th, but it has been a hail free month. **Sunshine:** After a rather poor start, sunshine accumulation was about 10 hours below normal by the 11th, but the deficit remained similar until the 22nd after which a scattering of sunny days brought it back to nearly zero. Compared with the last 13 years the total is lower than all except 2008, 2004, 2002 and is equal to 2000. Overall there were 18 days with <3 hours and 3 with =>6 hours. **Commentary: From the 1st to the 10th:** Both max and min temperatures were above normal throughout with the sole exception of the max on the 8th, anomaly -0.8°. For max, the greatest anomaly was +4.5° on the 3rd, and for min +6.1° on the 4th. The 32.4 mm of rain on the 3rd dominates this period, which had a total of 40.0 mm and 4 dry days. Sunshine was poor, the best was 55 % of the maximum on the 1st, and 5 days had <10 % of the max. Light or moderate winds were S'ly until the 4th, becoming N'ly to the 7th then mainly E'ly. **From the 11th to the 20th:** Once again most daily max and min temperatures were above normal, the exceptions being anomalies of -1.1° and -1.4° for the max on the 14th and 16th resp., and -0.4° for the min on the 20th. Extreme positive anomalies were +7.0° for the max on the 13th, and +6.4° for the min on the same day. There were 8 dry days and a total of only 2.0 mm, most of which fell on the 11th. 3 days had over 50 % of the maximum sunshine with 77 % on the 13th the best, but 4 days had <10 %. Winds were generally light and mostly E'ly, briefly S'ly on the 17th and 18th. **From the 21st to the 30th:** Daily max temperatures were above normal every day, with anomalies between +4.0 °and +4.5° from the 27th to the 30th. Min temps were more variable and the month's largest negative anomaly was for the min on the 28th, -5.1° while the month's largest positive value of +6.7° occurred on the previous day. A rainfall total of 6.1 mm was the result of several small daily falls, the largest being 2.0 mm on the 30th, and there were 4 dry days. The best sunshine of the month came on the 25th and 27th both days having over 80 % of the max. Nevertheless there were also 5 days with <10 %. Winds were light E'ly on the 21st, backing SW'ly by the 23rd and increasing moderate or fresh on the 24th and remaining so until the end of the month.

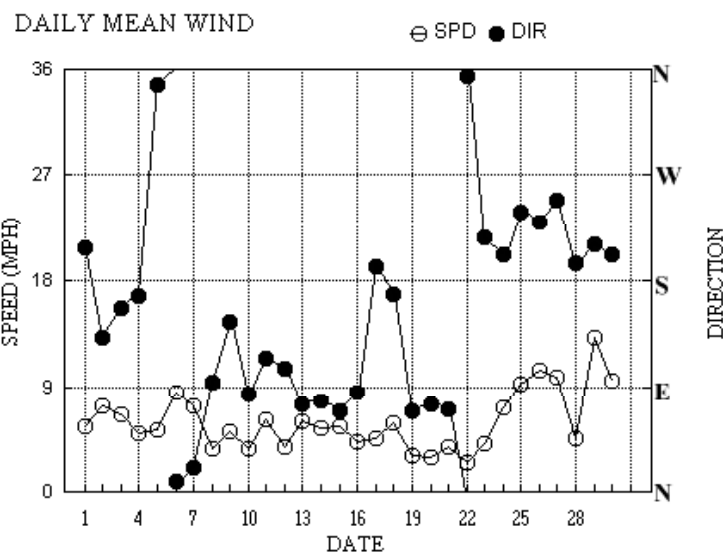
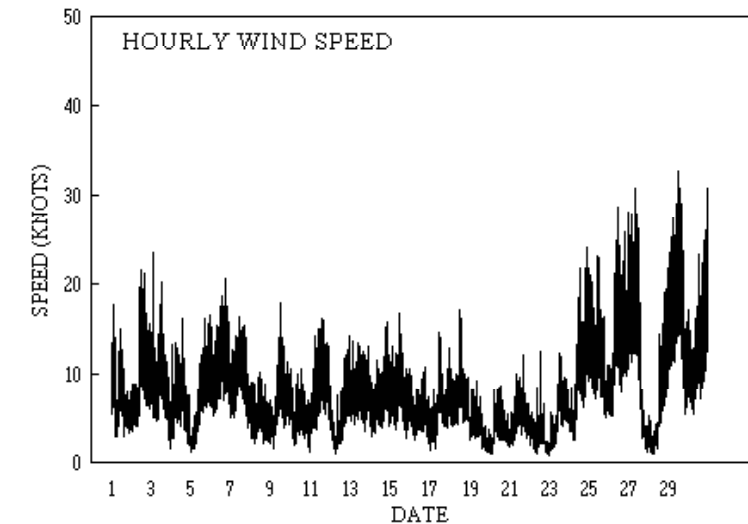
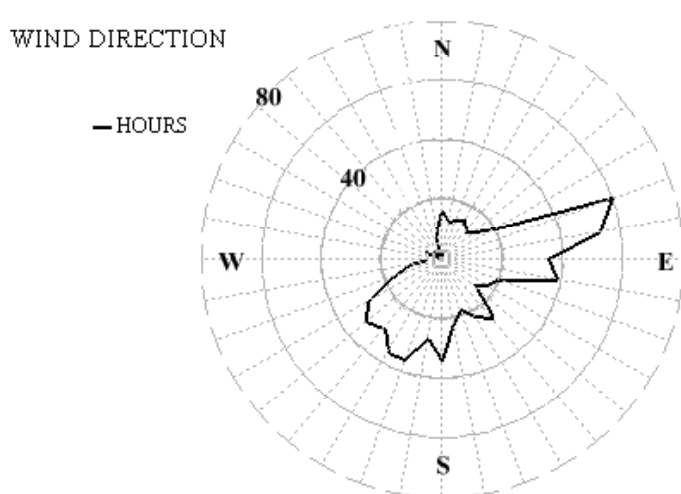
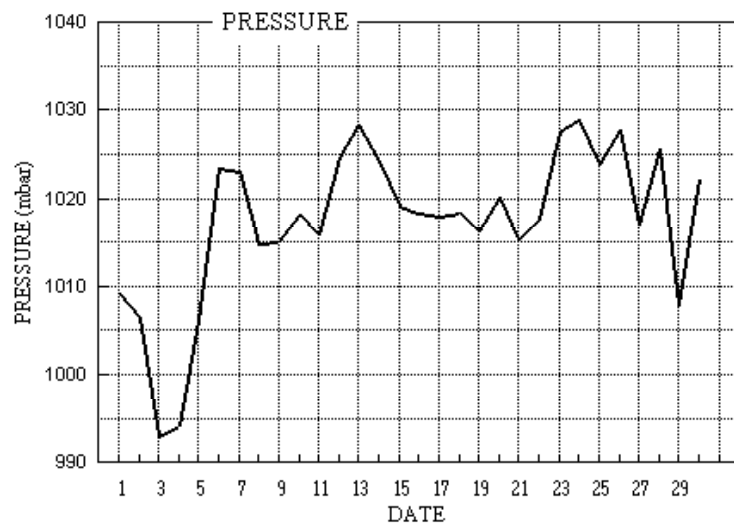
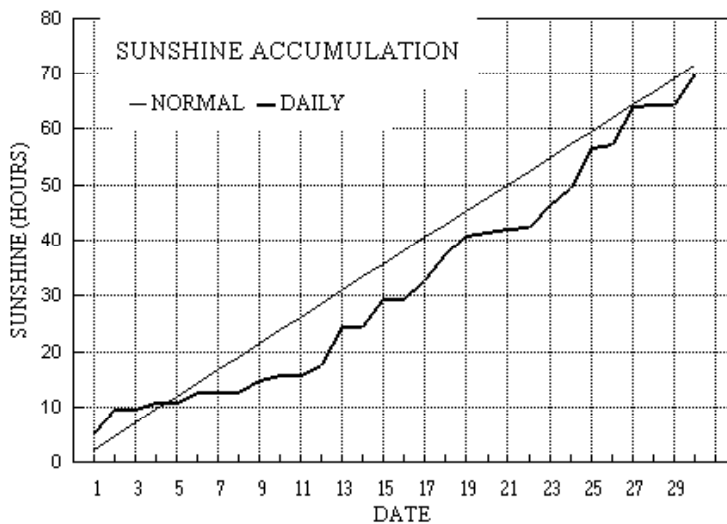
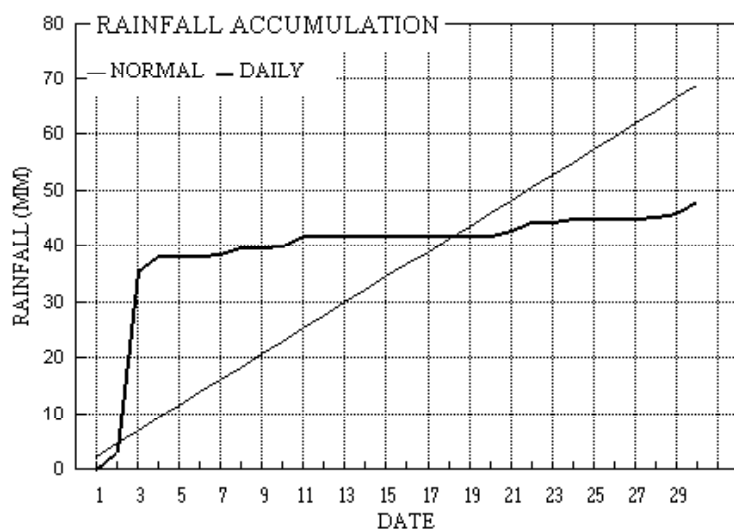
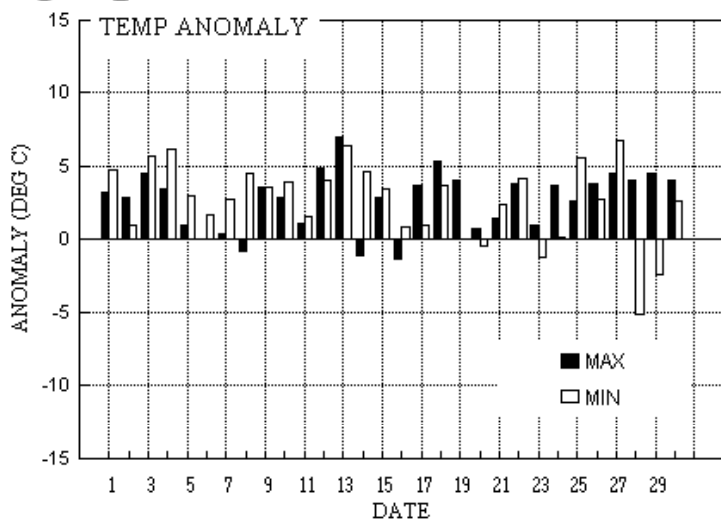
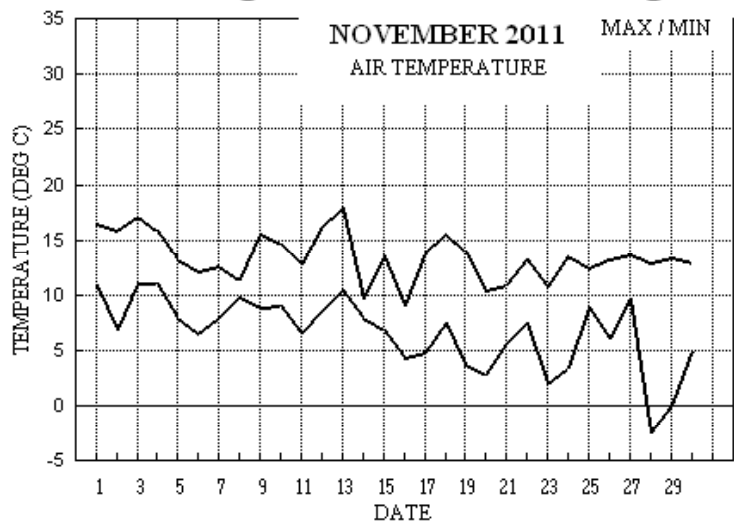
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
+2.1°	+3.7°	175%	67%	+2.7°	+2.5°	9%	109%	+3.3°	+1.6°	26%	118%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for November 2011



Month: NOVEMBER 2011

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	Rain HH hrs	
1	16.5	10.9	tr	9.4	13.7	14.3	5.3	0.0	1009.1	0 0 0 0	0 0 0 0	0 0 0 0	207	4.1 4.8	171 18 0220	243 8	12 0.0	
2	15.9	6.8	3.0	0.8	13.2	14.4	4.4	0.0	1006.5	0 0 0 0	0 0 0 0	0 0 0 0	132	6.2 6.4	110 22 1128	130 10	11 2.6	
3	17.1	11.0	32.4	10.7	13.2	14.4	0.1	0.0	993.0	0 0 0 0	0 0 0 0	0 0 0 0	157	5.2 5.7	162 24 0245	179 8	13 8.9	
4	15.9	11.1	2.7	10.0	13.4	14.3	1.0	0.0	994.1	0 0 0 0	1 0 0 0	0 0 0 0	167	4.0 4.4	192 16 1320	175 6	14 1.2	
5	13.3	7.9	tr	4.0	13.3	14.3	0.0	0.0	1006.0	0 0 0 0	0 0 0 0	0 0 0 0	346	4.3 4.6	7 17 2245	356 7	21 0.0	
6	12.2	6.6	tr	3.9	13.1	14.3	1.8	0.0	1023.4	0 0 0 0	0 0 0 0	0 0 0 0	9	7.3 7.4	27 21 1800	15 10	14 0.0	
7	12.6	8.0	0.5	8.1	12.8	14.3	0.0	0.0	1023.1	0 0 0 0	0 0 0 0	0 0 0 0	20	6.2 6.4	29 17 1021	25 9	11 4.3	
8	11.3	9.8	1.1	9.8	12.8	14.2	0.0	0.0	1014.8	0 0 0 0	0 0 0 0	0 0 0 0	94	3.0 3.2	106 11 1153	103 5	11 2.6	
9	15.5	8.9	tr	8.9	12.7	14.1	2.3	0.0	1015.1	0 0 0 0	0 0 0 0	0 0 0 0	145	4.1 4.4	189 18 1345	173 8	13 0.0	
10	14.7	9.0	0.3	5.1	12.7	14.1	0.8	0.0	1018.1	0 0 0 0	0 0 0 0	0 0 0 0	83	2.8 3.2	59 11 1455	144 5	00 0.9	
11	12.7	6.6	1.8	1.3	12.5	14.0	0.0	0.0	1015.8	0 0 0 0	0 0 0 0	0 0 0 0	114	4.9 5.3	132 16 1456	123 7	14 1.4	
12	16.2	8.6	0.0	4.6	12.5	14.0	1.9	0.0	1024.7	0 0 0 0	0 0 0 0	0 0 0 0	105	2.7 3.2	74 14 2302	84 6	23 0.0	
13	17.9	10.4	tr	8.8	12.8	13.9	6.9	0.0	1028.4	0 0 0 0	0 0 0 0	0 0 0 0	74	5.2 5.2	71 14 0401	80 6	12 0.0	
14	9.7	8.0	tr	3.5	12.7	13.9	0.0	0.0	1024.3	0 0 0 0	0 0 0 0	0 0 0 0	77	4.6 4.7	102 16 2126	77 7	21 0.0	
15	13.5	6.9	0.0	2.5	12.4	13.9	4.8	0.0	1019.2	0 0 0 0	0 0 0 0	0 0 0 0	69	4.6 4.8	37 17 1157	70 7	13 0.0	
16	9.0	4.3	0.0	-2.0	12.0	13.8	0.0	0.0	1018.3	0 1 0 0	0 0 0 0	0 0 0 0	85	3.5 3.6	140 11 1930	78 5	01 0.0	
17	13.9	4.8	0.0	-0.1	11.7	13.7	3.4	0.0	1017.9	0 1 0 0	0 0 0 1	0 0 0 0	191	3.3 4.0	219 15 1152	240 7	12 0.0	
18	15.5	7.5	0.0	2.6	11.3	13.6	4.8	0.0	1018.4	0 0 0 0	0 0 0 0	0 0 0 0	168	4.5 5.1	206 17 1319	192 9	13 0.0	
19	14.0	3.7	0.2	-0.3	11.1	13.5	3.3	0.0	1016.2	0 1 0 0	0 0 0 1	0 0 0 0	69	2.6 2.7	106 10 1003	82 5	03 0.0	
20	10.4	2.8	tr	-1.0	10.6	13.3	0.7	0.0	1020.1	0 1 0 0	0 0 0 1	0 0 0 0	75	2.1 2.6	112 9 1452	21 4	07 0.0	
21	10.9	5.6	0.9	6.0	10.8	13.2	0.7	0.0	1015.3	0 0 0 0	0 0 0 0	0 0 0 0	70	3.2 3.3	69 12 1708	73 5	17 0.7	
22	13.3	7.5	1.4	9.2	11.1	13.1	0.1	0.0	1017.6	0 0 0 0	0 0 0 1	0 0 0 0	354	0.6 2.2	336 13 1505	340 5	15 0.3	
23	10.8	2.0	tr	-1.5	11.0	13.0	4.2	0.0	1027.6	0 1 0 0	0 0 0 0	0 0 0 0	216	3.5 3.6	238 13 1212	233 6	13 0.0	
24	13.5	3.4	0.7	1.4	10.5	12.9	3.1	0.0	1029.0	0 0 0 0	0 0 0 0	0 0 0 0	202	6.2 6.3	211 24 2346	204 10	23 0.5	
25	12.4	8.8	0.0	6.3	10.5	12.8	7.0	0.0	1023.8	0 0 0 0	0 0 0 0	0 0 0 0	238	7.6 8.0	255 23 1148	256 11	11 0.0	
26	13.2	6.0	0.1	1.5	10.2	12.7	0.6	0.0	1027.8	0 0 0 0	0 0 0 0	0 0 0 0	230	8.9 9.0	223 29 1139	227 12	19 0.3	
27	13.7	9.7	0.0	7.9	10.3	12.6	6.9	0.7	1017.0	0 0 0 0	0 0 0 0	0 0 0 0	249	7.6 8.5	280 31 0826	234 13	00 0.0	
28	13.0	-2.5	0.2	-7.2	9.7	12.5	0.2	8.5	1025.6	1 1 0 0	0 0 0 0	0 0 0 0	194	2.9 3.9	209 20 2234	214 9	22 1.0	
29	13.4	0.0	0.8	3.5	9.8	12.4	0.0	0.0	1007.8	0 0 0 0	0 0 0 0	0 0 0 0	210	10.7 11.4	206 33 1338	207 15	15 0.6	
30	12.9	5.0	2.0	0.1	10.0	12.2	5.5	0.0	1022.3	0 0 0 0	0 0 0 0	0 0 0 0	202	8.1 8.3	178 31 2306	182 13	23 1.6	
Total			48.1				69.8	9.2										26.9
Mean	13.5	6.6		3.9	11.8	13.6	2.33	0.3	1017.3					163	1.6 5.2			
Anom	+2.6	+2.5	70%	+2.8	+2.4	+1.8	98%			+2.9								
Daily mean		10.1																
Anom		+2.6																

Number of days with:

Air frost = 1 Ground frost = 6 Nil sun = 7
 Snow falling = 0 Snow lying = 0 Thunder = 1
 Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 4

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 2011

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cl	N	Ch	shs	N	Ch	shs	Date	Remarks	
1	82	7	23	04	08	11.9	9.7	86	7.5	1009.1	2	024	60	6	2	7	5	4	/	/	81712	85640	87650						1	2Sc35
2	60	6	09	04	09	11.0	10.1	94	7.6	1006.5	7	017	10	1	1	1	6	3	3	1	81708	85080						2	1Sc30 2Ac65 COTRA	
3	61	7	14	05	12	14.8	13.5	92	9.8	993.0	7	001	03	2	2	6	8	4	3	2	83710	83625	86075					3	1Cu15 3Ac65 Cu med	
4	40	7	18	06	13	12.6	12.0	95	8.8	994.1	2	026	60	6	2	2	2	3	2	2	81707	85550						4	2Cu12 /Ac62 /Ci72 vv10k exSW	
5	56	8	36	04	09	11.6	11.2	97	8.3	1006.0	2	019	10	2	2	8	6	2	/	/	82704	85705	88708					5		
6	60	7	36	08	16	8.1	5.1	81	5.4	1023.4	1	024	05	2	2	7	5	4	/	/	81715	87620						6		
7	58	8	02	07	14	10.2	8.6	90	6.9	1023.1	7	008	05	5	2	8	6	3	/	/	86708	88712						7		
8	23	8	07	02	06	10.0	9.2	95	7.2	1014.8	3	003	58	5	5	8	5	3	/	/	83707	85710	88615					8		
9	56	8	16	04	08	11.2	10.6	96	7.9	1015.1	2	010	10	2	2	8	5	3	/	/	81708	84640	88650					9		
10	13	8	11	05	09	11.2	10.8	97	7.9	1018.1	1	009	10	2	2	8	6	2	/	/	88703								10	
11	20	8	10	05	10	10.3	10.0	98	7.6	1015.8	0	005	51	5	4	8	6	1	/	/	85702	88703						11	vv 900m @08	
12	20	8	07	01	03	12.2	12.0	98	8.6	1024.7	2	033	10	2	2	8	6	3	/	/	86703	88705						12		
13	35	6	07	05	11	10.9	10.2	95	7.6	1028.4	0	002	10	2	2	2	6	2	0	1	82705	85080						13	1Cc75 COTRA	
14	45	8	08	05	11	8.0	7.0	93	6.2	1024.3	0	002	50	5	2	8	6	2	/	/	83704	88705						14		
15	40	7	05	04	11	9.2	7.8	91	6.6	1019.2	8	002	05	2	2	7	6	3	/	/	87708								15	
16	23	8	03	03	09	4.8	4.1	95	5.0	1018.3	0	006	10	2	2	8	6	2	/	/	88703								16	
17	05	7	17	04	07	8.8	8.6	98	6.9	1017.9	1	010	41	4	1	7	8	5	/	/	82825	87640						17	vv1.5k S	
18	61	3	18	06	10	11.2	10.1	93	7.6	1018.4	1	006	02	0	0	1	5	4	7	2	81618	83070						18	1Ac59 COTRA	
19	08	8	08	04	07	8.4	8.0	98	6.6	1016.2	3	008	41	4	2	8	6	0	/	/	88701								19	vv1100 W
20	01	9	06	03	06	5.6	5.5	99	5.6	1020.1	3	008	45	4	4	9	/	/	/	/									20	vv190m
21	20	8	09	02	08	7.6	7.5	99	6.4	1015.3	4	000	28	4	2	8	6	1	/	/	83702	88703						21		
22	03	9	36	01	03	10.2	10.1	99	7.6	1017.6	2	018	47	4	4	9	/	/	/	/									22	
23	50	7	23	02	05	3.8	3.6	99	4.8	1027.6	3	010	28	4	2	1	5	7	4	1	81650	87075						23	1Ac65 1Cc72 COTRA jf NW Parhelion	
24	58	7	20	05	09	8.8	8.6	98	6.8	1029.0	0	001	10	2	2	1	8	5	3	2	81820	87072						24	1Sc30 2Ac68 COTRA	
25	75	1	24	07	14	9.8	7.4	85	6.3	1023.8	2	027	02	1	1	1	1	4	0	1	81812								25	1Ci70 1Ci75 Cu fra Puff Ci
26	70	7	23	11	21	9.7	6.6	81	6.0	1027.8	7	009	02	2	2	1	5	6	4	2	81645	83072	87075					26	1Ac69 COTRA	
27	70	2	26	11	28	12.5	8.0	74	6.6	1017.0	3	023	21	6	1	1	8	4	0	1	81818								27	1Sc35 1Cc72 2Ci75 Cu fra/med CF 0815
28	59	7	34	02	04	0.2	-0.3	96	3.7	1025.6	7	007	10	1	1	7	5	6	/	/	87633								28	Hoar slt
29	78	7	19	12	22	12.1	9.1	82	7.2	1007.8	7	018	20	5	2	7	5	4	/	/	81715	86620	87630					29		
30	75	1	21	08	13	7.6	4.2	79	5.1	1022.3	1	013	02	0	0	1	0	9	3	1	81362								30	1Ci75 COTRA

Mean vis = 9.1 km
 Mean cloud = 6.7 83%
 Mean wind speed = 5.0 kn
 Mean gust = 11 kn
 Mean TT = 9.5 °C
 Mean TdTd = 8.3 °C
 Mean RH = 92.4 %
 Mean r = 6.9 g/kg
 Mean PPP = 1017.3 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 2011

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppwwW1W2	NhCl	hCrCr	NChshs	NChshs	NChshs	Date	Remarks					
1	83	1	23	06	11	14.5	7.3	62	6.3	1010.1	3	005 01	0	0	1	8	5	0	1	81828	1	1Sc50 1Ci80 Cu med		
2	82	8	13	10	20	14.2	9.8	75	7.6	1000.6	7	027 03	2	2	8	5	5	/	/	85620	88625	2		
3	70	7	19	08	15	16.5	13.2	81	9.6	991.3	6	005 25	8	2	2	1	4	7	/	82818	87463	3	2Ac62 Cu hum jpS vv30k NW	
4	80	7	16	07	13	14.1	11.6	85	8.6	996.6	3	013 03	8	2	6	8	4	0	1	81712	85818	87072	4	2Sc40 Cu med COTRA
5	50	8	35	06	12	12.5	10.8	90	8.0	1009.5	3	023 05	2	2	8	6	3	/	/	86707	88710	5		
6	78	7	02	09	18	11.5	6.1	69	5.7	1024.1	3	004 02	2	2	7	5	5	/	/	87622		6		
7	57	8	03	07	14	12.0	9.7	86	7.4	1019.7	7	017 20	5	2	8	5	4	/	/	83712	88620	7		
8	57	8	09	03	08	10.0	8.5	91	6.9	1013.5	6	009 50	5	2	8	5	4	/	/	82710	87620	88630	8	
9	81	4	15	05	14	14.0	9.6	75	7.4	1015.1	5	000 02	8	1	1	2	5	7	1	81820	83075	9	1Ac63 2Ac65 COTRA Cu med Ac du vir	
10	57	6	06	05	11	13.8	11.8	88	8.5	1016.8	6	009 25	8	2	6	0	9	8	1	82358	86362	10	/Ci75 Ac cas vir	
11	58	8	12	07	16	11.4	10.6	95	7.9	1014.3	6	009 10	5	2	8	6	2	/	/	87705	88708	11		
12	61	7	05	03	08	14.5	13.1	91	9.3	1026.2	1	003 02	2	2	2	8	4	0	1	81815	87078	12	2Sc25 COTRA	
13	60	6	07	04	12	14.9	10.4	75	7.7	1025.8	6	008 05	1	1	0	0	9	0	4	82075	86080	13	COTRA Parhelia faint	
14	35	8	08	03	08	9.2	8.1	93	6.6	1022.0	6	010 05	5	2	8	6	2	/	/	83704	88705	14		
15	58	1	08	06	14	10.4	5.9	73	5.7	1016.5	5	008 05	1	1	1	5	5	0	0	81620		15		
16	35	8	08	03	10	7.4	6.1	92	5.8	1016.5	6	013 05	2	2	8	6	3	/	/	88708		16		
17	82	2	21	05	14	12.0	6.8	70	6.1	1018.8	7	001 02	1	1	2	8	5	0	1	81825		17	2Sc40 1Ci75 COTRA Cu hum	
18	75	7	19	06	16	13.9	8.3	69	6.8	1016.4	6	012 02	2	2	2	8	5	0	2	81825	86073	18	2Sc56 COTRA Cu hum Parheliion	
19	60	1	08	04	06	12.4	9.9	85	7.6	1015.8	6	004 05	1	1	1	5	7	0	1	81656		19	1Ci75 COTRA	
20	25	7	11	04	09	9.4	9.1	98	7.2	1018.0	7	014 10	2	2	6	6	2	/	/	83703	87075	20	COTRA	
21	50	6	08	03	10	10.1	9.5	96	7.4	1013.1	6	013 05	2	2	1	6	4	7	2	81710	85365	21	1Ac58 3Ci70	
22	50	8	28	03	11	12.4	11.9	97	8.5	1018.9	3	011 80	8	2	8	8	3	/	/	83808	87615	88640	22	Front passing
23	72	8	22	06	12	9.5	8.6	94	6.8	1027.4	5	000 03	2	2	5	0	9	7	7	82363	84465	88272	23	
24	75	7	20	07	17	11.3	7.2	76	6.2	1026.1	7	016 02	2	2	1	1	5	4	1	81820	87075	24	1Ac68 COTRA Cu fra/hum	
25	72	7	25	08	17	10.8	4.4	64	5.1	1026.1	2	008 02	2	2	1	8	5	0	1	81828	87075	25	1Sc40 COTRA Cu hum U/a cont+Parheliion	
26	78	7	25	08	21	11.9	6.6	70	5.9	1024.6	6	019 01	2	2	3	8	5	0	1	81825	83635	87075	26	COTRA Cu hum
27	81	1	29	08	18	10.6	0.6	50	3.9	1024.1	2	030 02	0	0	1	1	6	0	1	81840		27	1Ci75 Cu fra	
28	72	7	21	07	15	9.0	3.6	69	4.9	1020.0	7	031 01	2	2	6	5	6	7	1	86630		28	/Ac65 /Ci75	
29	59	8	20	14	31	12.7	9.7	82	7.6	1002.5	6	025 61	6	2	8	5	4	/	/	82718	87622	88640	29	
30	70	7	21	11	23	10.7	5.6	71	5.6	1019.9	7	021 25	8	1	6	8	5	0	1	81825	85656	87075	30	2Sc40 Cu med jpNE vv40k exNE

Mean vis = 18.0 km
 Mean cloud = 6.2 77%
 Mean wind speed = 6.2 kn
 Mean gust = 14 kn
 Mean TT = 11.9 °C
 Mean TdTd = 8.5 °C
 Mean RH = 80.4 %
 Mean r = 7.0 g/kg
 Mean PPP = 1016.3 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 Sunshine Hourly analysis	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
2011	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	0.00	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	0.00	0.02	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
	8	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.43	0.00	0.00	0.00
	9	0.02	0.98	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	1.00	0.00	0.00	0.00
	10	0.80	0.30	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	1.00	0.00	0.28	0.00
	11	0.62	0.73	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	1.00	0.00	0.82	0.00
	12	0.72	0.52	0.00	0.08	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.45	1.00	0.00	1.00	0.00
	13	0.78	0.88	0.00	0.03	0.00	0.70	0.00	0.00	0.85	0.23	0.00	0.22	1.00	0.00	1.00	0.00
	14	1.00	0.02	0.00	0.00	0.00	0.59	0.00	0.00	0.87	0.00	0.00	0.33	1.00	0.00	1.00	0.00
	15	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.38	0.00	0.15	0.50	0.00	0.68	0.00
	16	0.33	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	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		5.27	4.38	0.07	1.03	0.00	1.77	0.00	0.00	2.33	0.82	0.00	1.95	6.93	0.00	4.78	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8	0.00	1.00	0.00	0.00	0.00	0.00	0.86	0.00	0.88	0.00	0.15	0.00	0.00	0.63	0.16
	9	0.08	0.57	0.00	0.00	0.00	0.00	1.00	0.04	1.00	0.12	0.99	0.00	0.00	1.00	0.23
	10	0.00	0.67	0.00	0.00	0.00	0.00	0.80	0.58	1.00	0.00	0.89	0.00	0.00	0.94	0.27
	11	0.05	0.00	0.02	0.00	0.00	0.01	0.45	0.44	1.00	0.00	1.00	0.00	0.00	1.00	0.27
	12	0.52	0.50	0.63	0.55	0.00	0.00	0.89	0.03	1.00	0.00	1.00	0.00	0.00	1.00	0.35
	13	1.00	0.87	1.00	0.18	0.59	0.00	0.22	0.71	1.00	0.07	1.00	0.00	0.00	0.93	0.44
	14	0.95	0.98	1.00	0.00	0.14	0.00	0.00	0.97	0.69	0.37	1.00	0.00	0.00	0.04	0.37
	15	0.77	0.05	0.70	0.00	0.00	0.00	0.00	0.35	0.44	0.00	0.83	0.17	0.00	0.00	0.22
	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	0.01
	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		3.38	4.75	3.35	0.73	0.73	0.01	4.22	3.11	7.01	0.57	6.86	0.18	0.00	5.54	69.75

November 2011	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	12.10	16.1	1228	7.0	2358	82.2	95.6	2339	56.7	1343	9.02	7.21	9.1	422	5.9	2302	1009.32	1012.4	2045	1005.3	338	0.1
2	12.19	15.8	1331	7.0	20	87.1	96.2	142	64.0	1315	10.01	7.74	9.7	2354	5.9	22	1003.32	1011.4	0	994.7	2332	0.7
3	14.60	17.2	1347	11.8	2224	88.9	95.1	2356	78.2	1633	12.77	9.35	10.3	1024	8.1	2224	992.39	995.0	2	990.3	2341	2.7
4	12.44	15.4	1150	9.1	2330	92.9	97.1	2353	82.9	1425	11.33	8.48	10.2	1103	7.0	2330	995.39	1002.0	2359	989.4	328	28.8
5	11.15	13.2	1225	8.1	113	92.5	98.1	449	82.1	2355	9.96	7.65	8.7	1117	6.4	2354	1008.38	1017.6	2344	1001.8	0	0.0
6	9.58	12.4	1413	6.5	600	76.8	86.1	604	66.4	1415	5.68	5.62	6.5	1	5.1	532	1023.08	1026.3	2123	1017.3	55	0.0
7	10.56	12.6	1317	8.2	358	87.6	95.5	2357	76.2	1	8.59	6.89	7.7	1303	5.5	0	1021.06	1025.4	10	1015.9	2355	0.2
8	9.86	10.8	5	9.0	2349	94.1	96.2	312	89.8	1427	8.96	7.09	7.7	122	6.7	2213	1014.35	1016.0	0	1013.2	1543	0.7
9	11.67	15.2	1327	9.0	7	89.8	96.9	709	70.6	1415	10.01	7.61	8.8	1249	6.7	0	1015.09	1017.1	2314	1013.2	151	0.7
10	10.72	14.5	1356	6.9	2303	93.9	97.9	2355	86.4	1407	9.78	7.50	9.1	1336	6.0	2303	1017.00	1018.4	1001	1015.9	1644	0.2
11	10.83	12.6	2157	8.1	0	96.3	98.5	718	92.4	2154	10.27	7.74	8.6	2354	6.5	0	1015.36	1017.7	2352	1013.7	1535	1.3
12	12.63	15.4	1312	8.6	611	94.1	98.6	825	85.2	1306	11.71	8.45	9.7	1225	6.7	611	1024.67	1029.0	2314	1017.4	7	0.3
13	12.24	17.1	1325	9.8	1857	88.4	95.8	410	65.1	1341	10.28	7.65	8.5	1100	6.7	2344	1027.17	1028.9	8	1025.1	2359	0.0
14	9.08	10.2	0	7.8	843	92.6	96.6	2115	87.6	334	7.96	6.57	7.1	1905	6.0	1004	1022.95	1025.4	28	1020.6	2314	0.0
15	8.10	12.8	1258	4.6	1902	87.7	93.3	155	68.9	1308	6.14	5.85	7.1	1108	4.8	1902	1018.28	1020.8	0	1016.1	1423	0.0
16	6.29	8.8	2306	4.6	353	93.5	95.1	649	90.7	1737	5.33	5.53	6.6	2306	4.9	346	1017.18	1018.5	812	1015.8	1617	0.0
17	9.16	13.0	1327	5.4	626	89.9	98.5	920	67.5	1425	7.52	6.43	8.6	1144	5.4	626	1018.13	1019.5	1843	1016.0	123	0.0
18	11.28	15.2	1311	8.1	2359	84.9	95.6	622	66.6	1418	8.76	6.98	8.3	1236	5.5	2359	1017.29	1018.8	26	1015.8	2344	0.1
19	7.28	13.0	1408	2.9	2301	94.2	97.8	933	83.1	0	6.41	6.02	8.3	1318	4.5	2301	1016.55	1019.3	2323	1015.1	345	0.0
20	6.66	10.1	1253	3.1	8	98.6	99.2	1147	97.3	1	6.45	5.99	7.6	1256	4.6	10	1018.70	1020.3	924	1017.0	2330	0.2
21	8.45	10.7	1419	5.5	43	98.2	99.3	643	96.0	1452	8.20	6.76	7.7	1419	5.5	49	1014.75	1017.1	0	1012.8	1436	0.6
22	9.63	13.1	1404	3.2	2347	98.4	99.1	920	96.5	1501	9.40	7.35	9.1	1404	4.6	2348	1018.80	1024.6	2357	1014.4	111	1.3
23	6.41	9.8	1301	1.8	805	97.6	99.6	809	93.9	1415	6.06	5.79	7.1	1258	4.2	806	1027.43	1029.7	2325	1024.4	7	0.2
24	9.62	12.7	1329	5.1	649	89.9	98.8	834	73.7	1336	7.99	6.58	8.3	1120	5.3	649	1026.72	1029.6	219	1021.3	2359	0.1
25	10.16	13.5	347	5.9	2219	78.4	91.0	501	57.0	1240	6.48	5.99	8.1	501	4.8	1543	1024.94	1030.4	2346	1019.6	329	0.7
26	10.07	12.7	1304	6.3	441	79.0	92.3	515	65.5	1308	6.51	5.93	6.6	2359	5.3	440	1025.75	1030.0	0	1019.0	2357	0.0
27	9.37	13.6	1010	-0.5	2355	73.1	95.3	2359	48.3	1237	4.53	5.38	8.0	816	3.4	2355	1021.82	1029.2	2242	1014.5	611	0.1
28	4.82	12.7	2358	-2.3	521	89.8	97.7	622	66.5	1508	3.19	4.98	8.5	2203	3.1	637	1022.18	1028.7	2	1014.0	2358	0.3
29	10.89	13.4	1407	5.0	2247	80.4	90.4	7	71.2	1946	7.65	6.64	8.3	11	4.2	2103	1009.33	1017.8	2358	1002.2	1449	0.8
30	8.93	12.3	1322	5.4	2	75.0	90.1	2359	65.2	1252	4.72	5.31	6.8	2358	4.3	100	1018.66	1022.6	1021	1007.9	2350	0.5

Total	Mean	Max	Min	6.04	11.76	-2.31	88.9	95.91	76.38	8.06	6.77	8.21	5.46	1016.87	1020.64	1012.67	40.6
	9.89	13.20	4.82	6.04	11.76	-2.31	88.9	95.91	76.38	8.06	6.77	8.21	5.46	1016.87	1020.64	1012.67	40.6
	14.60	17.16	8.82	11.76	17.16	8.82	98.6	99.60	97.30	12.77	9.35	10.27	8.12	1027.43	1030.40	1025.14	
	4.82	8.82	8.82	-2.31	73.1	86.10	73.1	86.10	48.32	3.19	4.98	6.51	3.05	992.39	995.03	989.42	

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

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

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

WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

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

Seasonal Means and Totals

AUTUMN 2011

Temperature (°C)	Rank in the past 130 years								
Mean maximum	17.2	(+2.0)	2 nd highest						
Mean minimum	8.7	(+1.6)	2 nd highest						
Daily mean	13.0	(+1.9)	2 nd highest						
Rainfall total (mm)	115.2	(59 %)	18 th lowest						
Sunshine total (hours)	385.0	(118 %)							
N ^o of:	Dry days	54 (+4)	Wet days	24 (-6)					
Days with:	Air frost	3 (-5)	Ground frost	14 (-8)	Snow falling	0 (-1)	Snow lying	0 (0)	
Thunder	1 (-2)	Hail ≥5mm	0 (0)	Small hail/ice	1 (0)	Fog @09 GMT	5 (+1)	Nil sun	10 (-5)
Air pressure MSL : Mean @09 GMT (mbar)	1016.4		(+1.3)						

Departure from 1981 to 2010 average shown in brackets.

Notes: **Very Mild.** **Dry.** **Sunny.**

Temperature: Another near record season, with the mean temperature, mean max and mean min all 2nd highest in 130 years. This autumn was 0.5° below the record set in 2006, but recent autumn values serve to illustrate the change taking place in our climate. Of the warmest 10% of autumns in the past 130 years, there have been 7 since 1999, compared with just 1 or 2 expected if the climate had not changed. The highest max was on the 1st October, 28.0°, 3.5° above the median, a high temperature for so late in the season, and also remarkable as it was the 3rd highest temperature of the year. The lowest max was 9.0° on the 16th November, 4.4° above the median and second highest after 9.2° in 1994 in the past 100 years. The highest min was 15.7° on the 10th September, 0.4° above the median, while the lowest min was -2.5° on the 28th November, 1.4° above its median. The mean grass min was 5.7°, 1.7° above average, and highest since 2006. The lowest grass min was -7.2° on the 28th November. The mean earth temperature at 30 cm depth was 14.2°, 1.2° above average and also highest since 2006. At 1 m depth the mean was 15.3°. There were 10.1 hours with air frost, 43.3 below average. The first air frost of the season was on the 15th October after a frost free period of 163 days. The first ground frost occurred on the 14th October after 134 frost free days. **Rainfall:** This is the driest autumn since 1990, with the total 41 % below average. Compared with the long-term, the shortfall amounts to 70 mm for the season, and 112 mm for the past 12 months. All the autumn months had below average rainfall, with November marginally the wettest and October the driest. The total duration of measurable rain was 79.1 hours, 71.8 hours below average and lowest for this season since before 1993. Interestingly, the duration for each month differed by only 0.9 hours. There were 4 dry spells, 5 days ending on the 16th September, 8 days on the 3rd October and again on the 16th October and 7 days on the 18th November. The highest rainfall rate was 66 mm/hr on the 4th November. Thunder occurred on only 1 day, the 4th November and small hail was observed on the 6th October. **Sunshine:** This has been a sunny autumn with the most sunshine hours since 2003. Compared with average, October had the highest percentage and November the lowest, with the latter month the only one to have less than 100 %. The sunniest day was the 14th September with 11.3 hours. The 6 day period 28th September to 3rd October stands out as particularly sunny, having a mean of 10.6 hours per day, while the 10 days to the 12th November managed a meagre mean of only 0.8 hours per day. Overall there were 40 days with <3 hours, 30 with =>6 hours, 14 with =>9 hours. **Wind:** The overall mean wind speed of 6.6 mph is 0.5 mph above average. The windiest day was the 12th September, mean 14.6 mph, and the season's highest gust was 46 mph on the 6th October. The 22nd November was the least windy day, mean 2.5 mph, and there were 2587 minutes (43.1 hours) with a mean speed of 0.5 mph or less (officially calm). Daily mean direction/number of days: N,4 NE,2 E,13 SE,9 S,18 SW,37 W,8 NW,0. Compared with average, winds from E and SE were 9.2 % more frequent and from S and SW also 12.7% up, while W and NW were down 11.3% and N and NE down 10.7%. **Humidity:** The overall mean relative humidity was 82.8 %, and the lowest value was 32 % on the 30th September. The mean water vapour content per kg of air was 8.1 g at 0900 GMT and 7.6 g at 1500 GMT. **Pressure:** The highest pressure was 1032.1 mbar on the 14th October, and the lowest was 989.4 mbar on the 4th November, a range of 42.7 mbar, compared with an average of 56.2 mbar.

September: Sunny and very warm with below normal rainfall. Mean temperature 9th highest in 130 years.

October: Very mild, very sunny and dry. Mean max 3rd highest, mean temp 7th highest, in 130 years. Highest max 2nd highest in 108 years and highest since 1921, also the 3rd highest temperature of this year. Highest min 5th highest in 99 years. Driest since 1995. Highest daily rainfall lowest for the month since 1978. One of the 7 sunniest Octobers in 104 years.

November: Very mild with below normal rainfall and near normal sunshine. New record highest mean max, with the mean min and daily mean both 2nd highest, all in the past 130 years. Lowest max 2nd highest in 99 years. Earth temp at 30cm highest since 1979. Rainfall on the 3rd is 3rd highest for a November day in 108 years.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom %	Sun hrs	Anom %	Wind Mn mph	Max gust	Mean pressure	Anom
September	20.5°	+1.1°	10.8°	+0.8°	36.2	67 %	161.0	113 %	6.9	38	1013.8	-2.9
October	17.7°	+2.5°	8.6°	+1.4°	30.9	43 %	154.2	138 %	6.8	46	1017.9	+3.6
November	13.5°	+2.6°	6.6°	+2.5°	48.1	70 %	69.8	98 %	6.0	38	1017.3	+2.9

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.