

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

FEBRUARY 2016

Temperature (°C / °F)			Anomaly	Rank in the past 135 years			
Mean maximum	9.2	48.6	+1.0	34 th highest			
Mean minimum	2.0	35.6	+0.5	43 rd highest			
Daily mean	5.6	42.1	+0.7	44 th highest			
Highest maximum	14.2	57.6	on 21 st	Lowest maximum	4.8	40.6	on 13 th
Highest minimum	9.7	49.5	on 21 st	Lowest minimum	-4.2	24.4	on 16 th
Mean grass minimum	-1.3	29.7	+0.5	Lowest grass minimum	-9.6	14.7	on 16 th
Mean earth @30 cm	6.6	43.9	+1.3	Earth @100 cm	8.3	46.9	
Frost duration (hrs)	65.9			Rain duration (hrs)	55.3		
Rainfall total (mm / in)	48.3	1.90	113 %	51 st highest			
Highest daily fall	11.5	0.45	on 7 th				
Number of: Dry days (<0.2mm)	16	Wet days (>0.9mm)	8	days ≥5mm	3		
Sunshine total (hrs) 93.9	Daily mean 3.24	117 %	Sunniest day 8.9		on 16 th		
N° days with: Air frost 11	Ground frost 18	Snow falling 0	Snow lying 0				
Thunder 0	Hail ≥5mm 0	Small hail/ice 0	Fog @09 0	Nil sun 4			
Pressure MSL : Mean @09 GMT, mbar 1010.2	-7.2	Highest 1036.5	on 16 th	Lowest 982.7	on 13 th		
Relative humidity : Mean (%) 80.2	Lowest 41	on 18 th	Water vapour (g/kg), mean at 09 and 15 GMT 4.6,		4.5		
Overall mean wind speed (mph) 8.8	Windiest day 18.0	on 8 th	Max gust 58	on 6 th			
Wind direction (days) N 3 NE 3 E 2 SE 0 S 4 SW 10 W 5 NW 2							
Least windy day (mph) 2.4	on 24 th	Calm; less than 0.5 mph (minutes) 462					

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

Notes:

Temperature, Rainfall and Sunshine Above Average, Very Windy at Times

Temperature: This has been a relatively mild February with an absence of very cold days, though with a scattering of cold nights. The mean temperature is 0.7° above the current climatological average, and 0.8° above the long-term median. In this millennium 9 Februaries have been colder and 7 milder than this year's. The mean maximum ranks higher than the mean temperature and is 1.2° above the median. The highest max is also 1.2° above the median, and the lowest max is 2.4° above its median. The highest min is 1.7° above the median, and the lowest min is 0.8° above its median. The mean grass min is similarly 0.5° above average, but is highest only since 2014. The mean earth temperature at 30cm depth is highest since 2004, while at 1 m depth the mean is highest since before 1990, although 2002 was only 0.1° lower. The number of days with air frost is 1 more than average but the duration of air frost is 24.1 hours, or 27 %, below normal. The month got off to a mild start, with daily anomalies for both max and min being above zero until the 11th. From the 9th to the 18th temperatures were mainly near normal, followed by a short spell of milder weather, temperatures returning to near or below normal after the 21st. Extreme anomalies for daily max were +6.0° on the 1st and 21st, to near -2.5° on the 13th, 25th and 27th. For daily min, anomalies ranged from +8.2° on the 21st to -6.0° on the 24th and 25th. **Rainfall:** This month's rainfall is slightly above the climatological average, but since 2000 8 Februaries have been wetter and 8 drier. The rainfall was not evenly distributed over the month, with the first 4 days being dry, and also with a dry spell of 7 days ending on the 28th. But there was quite a lot of rain between the 5th and the 8th, by which time the accumulation stood in surplus by 15 mm, where it largely remained until the start of the dry spell later in the month. The number of dry days is 1 more than average but the duration of measurable rain is 4.5 hours, or 9 %, above normal. Snow was absent in this winter month, compared with a February average of 4.4 days, joining 7 other Februaries in the past 41 years in this respect. Thunder and hail were also absent. The highest rainfall rate recorded was 55 mm/hr on the 7th. **Sunshine:** This month's sunshine total is almost 19 hours above average. However, 2014, 2008 and 2003 were all sunnier this millennium, thus in 13 of those years February has had less sunshine than this year's. The number of days with nil sun is 3 fewer than average. Sunshine accumulation was 7 hours below normal by the 6th, and remained so until the 13th, after which a succession of reasonably sunny days put the accumulation in a surplus of 10 hours by the 19th. Although there were some dull days after this, notably the 20th to 22nd and 26th to 28th, by the month's end the surplus remained near 10 hours. Overall there were 14 days with <3 hours and 6 with ≥6 hours. **Wind:** The mean speed is 0.7 mph above average, but is highest only since 2014. The highest gust of 58 mph is 10 mph above average. Daily mean winds were mainly fresh or strong up to the 8th, and very strong on the 6th and 8th, then mainly moderate up to the 18th, strong again on the 20th and 21st, then light or moderate to the end of the month apart from fresh on the 28th. Directions were SW'ly up to the 10th, backing NE'ly by the 13th, becoming S'ly on 16th, veering to N'ly by the 24th, backing through W to SE'ly on 26th, then NE'ly by 28th, ending W'ly on the 29th.

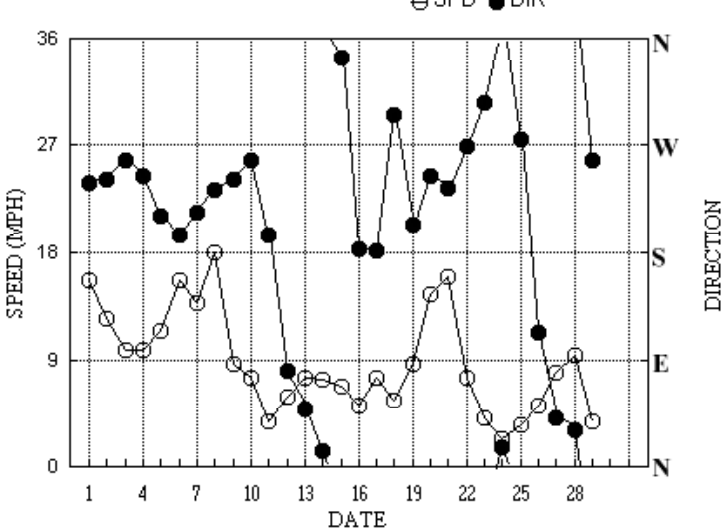
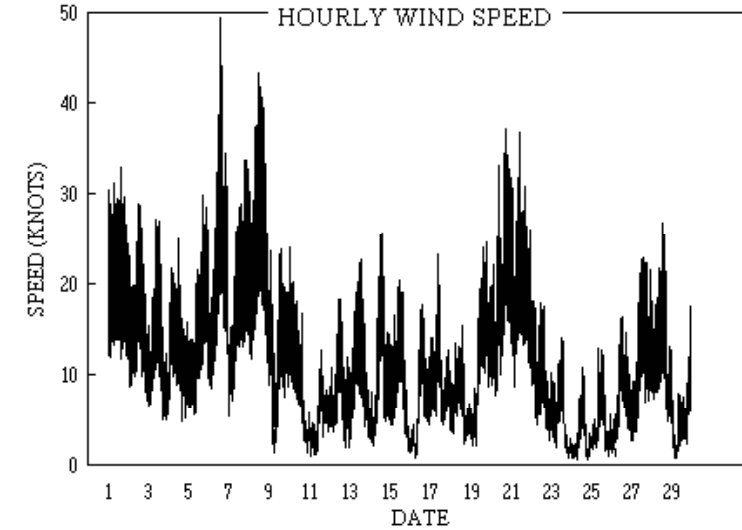
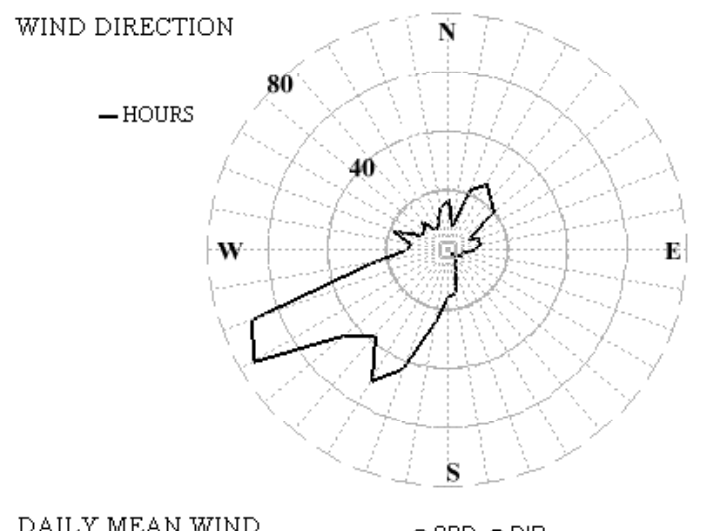
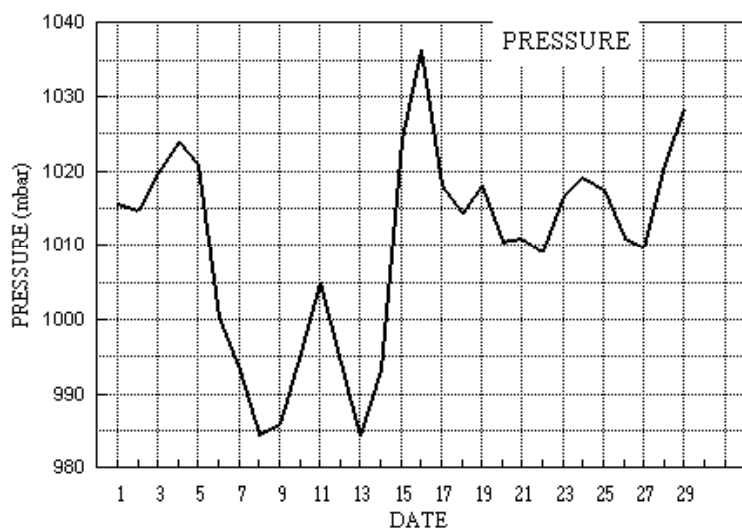
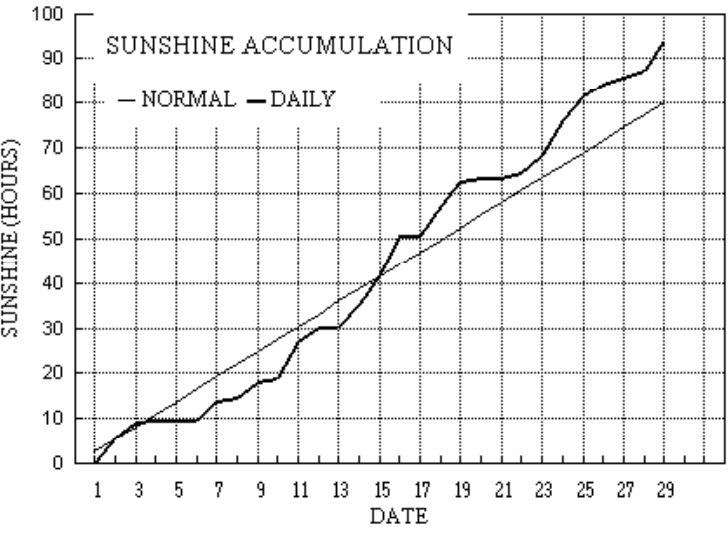
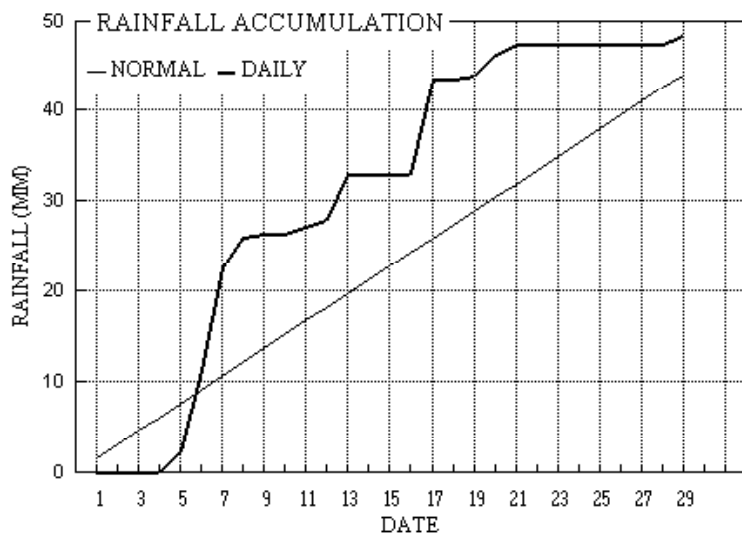
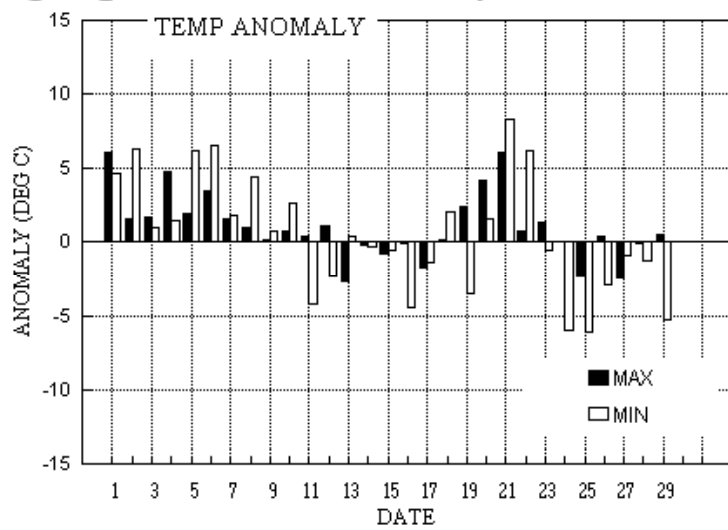
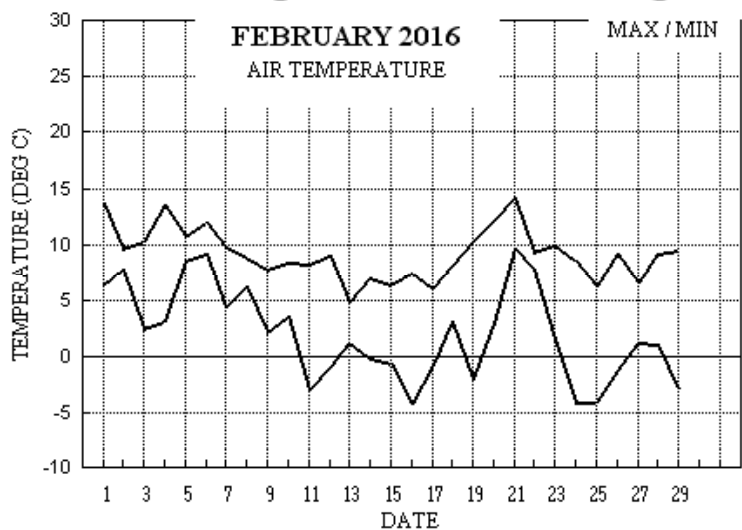
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 29 th			
+2.3°	+3.6°	178%	69%	+0.3°	-1.3°	132%	159%	+0.5°	-0.9°	13%	123%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for February 2016



Month: FEBRUARY 2016

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	13.7	6.3	tr	9.8	7.8	8.6	0.1	0.0	1015.7	0	0	0	0	238	13.6	13.6	241	33	1551	235	16	07	0.1	
2	9.6	7.7	tr	4.4	8.2	8.6	5.9	0.0	1014.7	0	0	0	0	242	10.6	10.8	257	29	1213	248	14	12	0.0	
3	10.2	2.4	tr	-1.5	7.4	8.7	3.3	0.0	1019.6	0	1	0	0	258	8.0	8.5	256	27	0958	262	13	10	0.0	
4	13.6	3.1	0.1	-1.7	7.0	8.7	0.4	0.0	1023.8	0	1	0	0	245	8.1	8.5	258	25	1148	236	12	05	0.6	
5	10.8	8.5	2.3	6.5	7.5	8.7	0.0	0.0	1020.8	0	0	0	0	210	9.7	9.9	192	30	1828	203	14	17	2.7	
6	12.0	9.2	8.7	8.3	8.0	8.7	0.0	0.0	1000.2	0	0	0	0	194	13.3	13.6	193	50	1459	192	20	15	7.0	
7	9.8	4.3	11.5	1.0	8.1	8.7	4.2	0.0	993.3	0	0	0	0	214	11.6	11.9	217	34	2151	204	17	21	4.9	
8	8.8	6.2	3.5	3.3	7.9	8.8	0.9	0.0	984.5	0	0	0	0	233	15.4	15.6	242	44	1216	241	20	14	1.6	
9	7.8	2.1	0.4	-1.8	7.6	8.8	3.6	0.0	986.0	0	1	0	0	241	7.2	7.5	260	24	1402	249	11	16	1.1	
10	8.4	3.6	tr	0.4	7.2	8.8	0.7	0.3	995.5	0	0	0	0	258	6.0	6.5	253	24	0140	256	11	01	0.0	
11	8.3	-3.0	0.7	-8.4	6.8	8.7	7.9	9.4	1005.0	1	1	0	0	195	2.9	3.3	226	13	1448	218	6	15	0.4	
12	9.0	-1.0	0.8	-5.2	6.1	8.7	3.1	0.0	994.1	1	1	0	0	80	4.5	5.1	60	19	1251	67	10	12	1.9	
13	4.8	1.3	4.9	-2.7	6.2	8.5	0.0	0.0	984.2	0	1	0	0	48	6.0	6.4	29	23	1307	63	10	09	13.4	
14	7.0	-0.1	0.0	-5.2	6.2	8.4	5.1	0.2	993.3	1	1	0	0	13	6.1	6.3	24	26	1452	18	12	14	0.0	
15	6.4	-0.6	0.0	-5.7	5.8	8.3	6.5	5.0	1024.2	1	1	0	0	344	5.7	5.9	341	21	1210	354	10	13	0.0	
16	7.5	-4.2	0.0	-9.6	5.3	8.2	8.9	9.3	1036.2	1	1	0	0	183	4.0	4.4	223	18	1547	194	9	14	0.0	
17	6.0	-0.8	10.6	-3.6	5.0	8.1	0.0	0.0	1018.0	1	1	0	0	182	6.1	6.4	194	23	1053	188	10	11	11.9	
18	8.1	3.1	0.0	2.2	5.2	7.9	6.6	2.2	1014.2	0	0	0	0	296	3.6	4.8	288	16	1402	321	7	11	0.0	
19	10.3	-2.1	0.4	-7.8	5.2	7.8	5.6	6.9	1018.1	1	1	0	0	204	7.4	7.5	207	25	1908	203	13	19	1.2	
20	12.2	2.9	2.3	5.9	5.5	7.7	0.6	0.0	1010.6	0	0	0	0	244	12.6	12.6	251	37	1957	248	18	19	3.7	
21	14.2	9.7	1.2	10.1	6.6	7.6	0.2	0.0	1011.1	0	0	0	0	234	13.8	13.9	235	37	1159	231	17	09	1.4	
22	9.3	7.8	0.1	7.0	7.6	7.7	1.2	0.0	1009.1	0	0	0	0	269	6.0	6.5	233	20	0007	235	11	00	0.3	
23	9.9	1.6	0.0	-3.3	7.5	7.8	3.7	3.0	1016.7	0	1	0	0	306	2.5	3.5	24	14	1355	350	6	13	0.0	
24	8.5	-4.0	0.0	-9.4	6.8	8.0	7.8	13.7	1019.2	1	1	0	0	16	1.2	2.1	26	11	1437	359	5	16	0.0	
25	6.2	-4.1	0.0	-9.4	6.0	8.0	5.3	10.0	1017.5	1	1	0	0	275	1.5	3.0	321	13	0933	314	6	09	0.0	
26	9.1	-1.2	0.0	-6.3	5.5	8.0	2.8	0.0	1011.0	1	1	0	0	112	3.7	4.5	144	17	1400	154	8	11	0.0	
27	6.6	1.2	0.0	-3.6	5.8	7.8	1.4	0.0	1009.9	0	1	0	0	41	6.9	6.9	48	23	1554	45	10	15	0.0	
28	9.1	1.0	0.0	-2.8	5.7	7.8	1.5	0.0	1020.9	0	1	0	0	30	8.1	8.1	28	27	1417	27	12	14	0.0	
29	9.4	-3.0	0.8	-8.3	5.6	7.7	6.6	5.9	1028.3	1	1	0	0	257	0.7	3.3	210	18	2301	197	8	23	3.1	
Total			48.3				93.9	65.9																55.3
Mean	9.2	2.0		-1.3	6.6	8.3	3.24	2.3	1010.2					236	3.9	7.6								
Anom	+1.0	+0.5	113%	+0.5	+1.3	+1.5	117%																	
Daily mean		5.6																						
Anom		+0.7																						

Number of days with:

Air frost = 11 Ground frost = 18 Nil sun = 4
Snow falling = 0 Snow lying = 0 Thunder = 0
Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 0

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for FEBRUARY 2016

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cl	N	Ch	shs	N	Ch	shs	Date	Remarks
1	80	8	24	12	27	11.1	7.6	79	6.5	1015.7	3	005	20	5	2	7	5	5	/	1	81620	87625				1	/Ci75	
2	62	7	25	12	20	7.8	4.6	80	5.2	1014.7	3	005	80	8	2	4	8	5	7	/	82825	83640	87463			2	1Ac62 Cu med	
3	75	3	24	10	21	4.1	-0.5	72	3.6	1019.6	2	015	01	1	1	1	5	6	7	2	81635					3	1Sc56 2Ac62 2Ci70	
4	78	7	25	11	20	10.2	7.6	84	6.4	1023.8	2	010	02	5	2	2	5	4	4	8	81715	83365	87275			4	2Sc35 COTRA	
5	50	8	22	08	13	9.2	8.0	92	6.6	1020.8	7	013	51	5	5	8	5	2	/	/	83704	87706	88615			5		
6	50	8	18	13	26	9.6	8.0	90	6.8	1000.2	7	030	60	6	5	7	7	3	2	/	84708	87712	88520			6		
7	65	4	21	13	23	6.1	2.4	77	4.6	993.3	2	017	15	1	1	1	5	6	6	3	81640	84068				7	1Ac65 jpNW	
8	70	5	23	17	38	6.5	2.4	75	4.6	984.5	3	005	25	8	1	2	5	5	7	3	82620	83068				8	1Sc35 1Ac58 1Ac65	
9	75	7	24	03	05	4.5	2.0	84	4.5	986.0	6	035	02	2	2	1	5	6	2	/	81640	87462				9	Cl d edge NNW	
10	82	7	26	08	15	5.6	2.4	80	4.6	995.5	2	022	25	8	2	7	5	5	/	/	82620	85625	87635			10		
11	62	3	20	02	04	-1.0	-1.7	95	3.4	1005.0	1	004	02	0	0	1	0	9	3	1	81368	83070				11	COTRA Hoar thk	
12	59	5	09	05	09	3.4	2.8	96	4.7	994.1	6	009	25	8	1	3	8	4	3	1	81815	83650				12	1Ac65 2Ci72 Cu med	
13	50	8	06	10	19	3.2	2.0	92	4.5	984.2	6	031	61	6	6	7	7	3	2	/	83707	87711	88518			13		
14	62	7	02	07	14	2.6	1.6	93	4.3	993.3	3	028	02	2	2	2	0	9	3	1	82367	87070				14	COTRA Parhelion+u/a cont	
15	72	2	35	07	13	1.6	-1.1	82	3.4	1024.2	2	038	01	1	1	2	6	4	0	0	82715					15	Hoar slt	
16	56	2	30	01	04	-0.8	-1.8	93	3.2	1036.2	2	001	05	0	0	0	0	9	0	1	82075					16	Hoar mod	
17	65	8	17	09	17	5.4	0.0	68	3.8	1018.0	7	021	02	2	2	2	5	6	7	7	82635	85367	88272			17	2Sc56 COTRA Halo 22° part	
18	59	7	31	07	12	3.3	1.5	88	4.2	1014.2	2	026	05	2	2	2	7	5	3	/	85708	87630				18		
19	68	1	20	06	08	2.9	1.1	88	4.1	1018.1	7	002	01	1	1	1	0	9	4	1	81368					19	1Ci72 Hoar mod	
20	78	7	25	09	22	10.2	6.0	75	5.8	1010.6	3	005	02	2	2	4	8	5	3	1	84820	85367				20	1Sc35 3Ci75 COTRA Cu hum	
21	88	7	23	15	28	12.1	9.3	83	7.3	1011.1	7	004	01	2	2	7	5	4	/	9	87615					21	/Cc75 COTRA	
22	80	8	27	06	12	8.1	5.0	81	5.4	1009.1	2	010	21	6	2	8	8	4	/	/	81815	85640	88650			22	2Sc30 Cu fra/hum jpS vv60k N	
23	84	7	30	04	10	5.0	1.5	78	4.2	1016.7	3	021	03	2	2	7	8	5	/	/	81825	87650				23	2Sc45 Cu med distant N	
24	60	5	02	01	02	-0.5	-1.5	93	3.4	1019.2	7	003	05	2	2	1	5	6	0	1	81645	85075				24	COTRA Hoar thk Parhelia	
25	68	2	30	04	07	2.4	-0.4	82	3.7	1017.5	2	009	03	1	1	2	5	4	0	0	82615					25	1Sc30 1Sc56 Hoar slt	
26	65	8	09	04	08	3.2	-1.7	70	3.3	1011.0	6	007	02	2	2	7	5	6	/	7	81645	87656	88270			26	Sc vir	
27	60	7	04	06	13	4.5	-0.5	70	3.7	1009.9	2	020	05	2	2	3	5	7	0	1	83560	87075				27	COTRA	
28	80	8	03	08	19	3.8	-0.6	73	3.6	1020.9	2	025	02	2	2	2	5	6	1	7	82645	84468	88272			28	COTRA	
29	82	7	36	03	05	2.9	-0.4	79	3.6	1028.3	1	010	02	2	2	0	0	9	0	8	87275					29	Hoar slt	

Mean vis = 21.2 km
 Mean cloud = 6.0 75%
 Mean wind speed = 7.6 kn
 Mean gust = 15 kn
 Mean TT = 5.1 °C
 Mean TdTd = 2.3 °C
 Mean RH = 82.5 %
 Mean r = 4.6 g/kg
 Mean PPP = 1010.2 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 FEBRUARY 2016

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cl	NChs	hshs	NChs	Date	Remarks
1	82	7	24	15	29	13.5	8.6	72	6.9	1014.1	6	009	02	5	2	7	8	5	/	/	85825	86635	1	Cu hum	
2	80	2	25	14	29	8.6	-0.2	54	3.7	1015.0	3	006	01	0	0	1	8	6	6	0	81835		2	1Sc56 1Ac58 Cu med	
3	82	3	30	12	27	9.1	0.0	53	3.7	1023.8	1	020	25	8	1	3	8	6	0	1	81838	83645	3	1Ci78 Cu hum jpN	
4	86	7	28	08	20	13.0	8.3	73	6.7	1025.2	1	003	02	2	2	6	8	5	/	1	83822	84640	4	COTRA Cu hum	
5	70	7	21	09	21	9.9	8.0	88	6.6	1015.3	7	032	21	6	5	7	5	4	/	/	81712	83615	5	jpW	
6	58	8	20	19	50	11.5	6.8	73	6.3	992.5	7	044	60	6	2	7	5	5	2	/	82622	86635	6	88540	
7	75	8	22	14	29	8.8	1.9	62	4.4	995.1	7	003	03	1	1	1	1	6	7	/	81830	83360	7	3Ac65 Cu hum	
8	58	8	25	18	41	7.3	5.1	86	5.6	987.0	2	028	80	8	2	8	8	5	/	/	85820	88635	8		
9	82	5	26	08	24	6.5	-1.6	56	3.5	985.7	5	000	03	1	1	1	1	6	7	2	81835	84070	9	1Ac62 1As65 Cu hum Cb top W&NW	
10	88	7	30	07	13	8.1	2.8	69	4.7	999.1	2	014	02	2	2	7	8	5	/	/	82822	87640	10	Cu med	
11	86	2	23	07	13	8.0	-0.5	55	3.7	1003.0	7	015	02	0	0	2	8	6	0	1	82835		11	1Sc45 1Ci72 Cu hum	
12	68	8	06	08	16	5.5	2.2	79	4.5	993.9	3	004	03	8	2	8	5	4	/	/	82618	88622	12		
13	61	8	04	07	17	4.2	2.6	89	4.7	983.8	3	007	61	6	6	7	5	4	2	/	87615	88520	13		
14	82	7	02	14	26	5.3	-1.4	62	3.5	1000.2	2	038	02	2	2	3	4	6	0	1	81835	83645	14	COTRA Cu hum Parhelia	
15	82	6	36	08	18	5.6	-1.3	61	3.4	1028.8	2	017	02	1	1	6	8	6	0	0	82830	85645	15	Cu med	
16	81	7	19	08	18	7.0	-1.7	54	3.3	1031.8	8	038	03	1	1	1	4	6	0	1	81632	87080	16	1Cc72	
17	56	8	17	05	11	4.8	3.3	90	4.8	1012.3	7	029	63	6	6	7	5	4	2	/	82710	87613	17	88520	
18	84	1	32	08	16	7.7	-1.8	51	3.3	1015.7	2	004	02	0	0	1	1	6	0	1	81840		18	1Ci75 Cu hum	
19	80	7	21	10	20	8.6	3.6	71	4.9	1014.7	6	025	25	8	1	4	8	5	5	8	82825	83635	19	4Ac59	
20	30	8	23	13	22	10.5	9.4	93	7.4	1008.6	7	020	58	6	5	7	7	3	2	/	83708	87710	20	88515	
21	65	7	23	15	26	13.7	11.0	84	8.2	1009.3	7	015	20	5	2	7	5	4	/	/	85612	87618	21	jpNW	
22	84	6	30	08	16	9.0	0.7	56	4.0	1009.5	5	000	01	2	2	3	8	6	7	1	82840	86078	22	1Sc50 2Ac58 2Ac63 COTRA Cu hum	
23	84	3	35	05	14	8.2	0.7	59	4.0	1018.5	3	006	15	1	1	3	8	6	0	0	81830	83656	23	1Sc45 Cu med/con jp NW	
24	82	2	02	05	11	6.9	-2.0	53	3.3	1015.8	7	020	01	1	1	2	4	6	0	1	82842		24	1Sc50 1Ci75 Cu hum	
25	82	3	32	06	12	5.3	-6.3	43	2.4	1016.6	8	011	01	1	1	3	8	6	0	0	81840	83645	25	Cu hum	
26	75	7	13	07	17	7.6	-3.3	46	3.0	1006.9	7	022	02	2	2	4	8	6	0	1	82840	83656	26	86075	
27	70	7	05	10	22	5.7	-3.6	58	2.9	1011.6	3	007	02	2	2	7	5	6	/	1	81640	87645	27	/Ci75	
28	82	6	02	15	27	6.9	-2.0	53	3.2	1022.2	3	007	01	2	2	5	8	6	0	1	81840	85650	28	COTRA Cu hum	
29	81	7	29	02	08	8.1	-1.7	50	3.3	1026.0	6	015	02	2	2	1	4	6	3	8	81645	87275	29	2Ac65 COTRA Partial 22° deg halo	

Mean vis = 32.7 km

Mean cloud = 5.9 74%

Mean wind speed = 9.8 kn

Mean gust = 21 kn

Mean TT = 8.1 °C

Mean TdTd = 1.6 °C

Mean RH = 65.3 %

Mean r = 4.5 g/kg

Mean PPP = 1009.7 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

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-Feb	02-Feb	03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	17-Feb	
Sunshine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Hourly analysis	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2016	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	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	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	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	0.00	
	7	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.45	0.00
	8	0.00	0.00	0.42	0.00	0.00	0.00	1.00	0.28	0.00	0.00	0.67	0.10	0.00	0.71	0.32	1.00	0.00	
	9	0.05	0.00	0.15	0.00	0.00	0.00	0.97	0.11	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	
	10	0.00	0.75	0.15	0.00	0.00	0.00	0.88	0.35	0.00	0.00	0.94	0.94	0.00	0.72	1.00	1.00	0.00	
	11	0.00	1.00	0.26	0.33	0.00	0.00	0.22	0.10	0.37	0.40	1.00	0.51	0.00	0.64	0.99	1.00	0.00	
	12	0.02	0.78	0.16	0.01	0.00	0.00	0.42	0.00	1.00	0.10	0.89	0.52	0.00	0.26	0.98	0.99	0.00	
	13	0.00	0.95	0.30	0.00	0.00	0.00	0.56	0.01	0.93	0.00	0.97	0.00	0.00	0.23	0.74	1.00	0.00	
	14	0.07	0.96	0.85	0.00	0.00	0.00	0.13	0.00	0.15	0.19	0.97	0.00	0.00	0.64	0.23	1.00	0.00	
	15	0.01	0.99	0.86	0.01	0.00	0.00	0.00	0.00	0.96	0.00	1.00	0.00	0.00	0.62	0.21	0.92	0.00	
	16	0.00	0.48	0.16	0.03	0.00	0.00	0.00	0.00	0.22	0.00	0.44	0.00	0.00	0.28	0.90	0.49	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	0.10	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	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	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	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	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	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	0.00	
	Tot		0.15	5.90	3.32	0.37	0.00	0.00	4.20	0.86	3.64	0.70	7.88	3.08	0.00	5.09	6.48	8.85	0.00

Hour	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	29-Feb	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
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
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
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
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
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
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
7	0.00	0.00	0.59	0.00	0.00	0.00	0.24	0.55	0.58	0.00	0.00	0.00	0.46	0.10
8	0.00	0.00	1.00	0.01	0.00	0.00	0.00	1.00	1.00	0.00	0.41	0.00	1.00	0.31
9	0.00	0.64	1.00	0.20	0.02	0.00	0.00	1.00	0.80	0.08	1.00	0.00	1.00	0.41
10	0.00	0.85	0.99	0.34	0.00	0.00	0.53	1.00	0.73	0.80	0.02	0.02	0.99	0.45
11	0.00	0.97	0.78	0.06	0.11	0.00	0.64	1.00	0.62	0.86	0.00	0.61	0.65	0.45
12	0.00	0.49	0.64	0.00	0.06	0.00	0.28	0.70	0.49	0.81	0.00	0.10	0.85	0.36
13	0.00	0.70	0.49	0.00	0.02	0.00	0.69	0.58	0.38	0.11	0.00	0.20	0.75	0.33
14	0.00	0.94	0.13	0.00	0.00	0.56	0.19	0.49	0.16	0.12	0.00	0.03	0.78	0.30
15	0.00	1.00	0.00	0.00	0.00	0.60	0.87	0.31	0.38	0.00	0.00	0.38	0.13	0.32
16	0.00	0.84	0.00	0.00	0.00	0.00	0.30	0.74	0.20	0.00	0.00	0.19	0.00	0.18
17	0.00	0.15	0.00	0.00	0.00	0.00	0.01	0.40	0.00	0.00	0.00	0.00	0.00	0.02
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
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
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
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
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
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
Tot	0.00	6.58	5.63	0.62	0.21	1.15	3.73	7.79	5.33	2.79	1.43	1.53	6.62	93.93

FEBRUARY 2016	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
1	11.82	14.0	1556	8.7	2330	74.6	93.7	302	59.5	1910	7.41	6.43	7.7	1246	4.6	2303	1015.21	1016.4	2105	1013.5	1428
2	7.59	9.9	1209	3.8	2321	70.8	88.1	2356	45.4	1415	2.48	4.55	5.6	909	3.3	1415	1015.56	1017.9	2358	1014.0	602
3	5.35	9.6	1353	2.4	407	74.2	91.7	242	48.9	1514	0.97	4.03	4.7	1342	3.5	638	1022.69	1029.3	2212	1017.9	23
4	9.85	13.9	1143	3.2	0	83.2	92.7	728	70.7	1144	7.11	6.26	7.3	1138	4.1	1	1025.33	1028.6	2	1022.5	555
5	9.99	11.0	1230	8.6	729	87.8	98.1	816	76.3	1739	8.04	6.64	7.4	1342	6.0	1734	1017.51	1025.8	0	1008.3	2331
6	9.96	12.3	1304	5.2	2349	87.5	96.7	125	69.0	1313	7.93	6.74	7.3	932	5.3	2357	996.60	1008.6	8	985.1	2109
7	7.24	10.1	1321	4.4	709	79.7	95.9	2132	55.1	1431	3.83	5.14	7.4	2144	4.0	1431	991.49	995.7	1425	984.1	2227
8	7.44	9.1	1135	5.1	2317	74.7	89.7	1247	65.3	1042	3.22	4.92	6.0	104	4.0	2223	987.48	995.2	2335	983.3	1131
9	4.98	8.1	1318	2.3	510	77.7	95.0	547	48.4	1356	1.23	4.26	4.9	907	3.3	1403	988.57	995.1	1	985.2	1259
10	4.95	8.6	1415	-0.5	2350	82.4	99.0	2132	63.9	1416	2.10	4.49	5.3	1204	3.6	2350	997.51	1004.3	2358	990.4	4
11	2.28	8.7	1442	-2.9	735	85.7	99.0	209	51.0	1341	-0.19	3.79	4.9	1103	3.1	709	1003.62	1005.3	822	999.5	2358
12	4.15	9.3	1159	0.7	540	89.6	99.0	555	65.2	1201	2.52	4.63	5.8	1158	4.0	2	995.20	999.6	2	993.2	1322
13	3.36	5.1	1329	1.4	224	95.6	99.4	2356	89.2	624	2.73	4.74	5.4	1334	4.2	206	986.71	993.6	0	982.7	1309
14	3.04	7.4	1224	-0.0	634	82.6	99.0	746	50.4	1607	0.09	3.92	5.0	1214	2.7	1607	997.90	1013.2	2358	988.0	1
15	2.41	6.7	1401	-1.8	2359	78.4	99.6	2339	53.9	1547	-1.17	3.44	3.9	1337	3.0	1556	1025.94	1035.4	2349	1013.1	0
16	1.80	7.9	1257	-4.1	739	81.8	99.0	549	50.1	1444	-1.33	3.39	4.3	1042	2.7	724	1033.40	1036.5	912	1026.8	2359
17	4.43	6.3	1010	1.5	56	83.7	98.1	2201	66.5	924	1.82	4.36	5.3	1712	3.4	46	1015.90	1026.9	2	1009.3	2142
18	3.89	8.4	1322	-1.4	2352	81.5	99.0	2353	41.3	1606	0.67	4.01	4.9	37	2.5	1606	1014.55	1018.5	2251	1010.0	21
19	5.05	10.6	1258	-2.0	218	88.8	99.0	344	57.7	1255	3.15	4.87	7.1	2252	3.2	217	1015.24	1018.7	211	1008.1	2303
20	10.72	12.5	2308	8.5	526	84.8	97.7	1518	63.1	1109	8.23	6.82	8.1	1548	5.4	1101	1009.54	1011.5	1018	1007.4	1837
21	12.40	14.5	1402	11.1	431	86.2	93.6	430	78.6	1153	10.16	7.72	8.8	1449	7.2	315	1010.16	1012.3	212	1007.3	2342
22	8.19	11.7	3	2.5	2251	74.1	98.5	228	50.1	1722	3.55	5.13	7.9	208	3.2	1722	1009.58	1013.0	2303	1007.0	327
23	4.52	10.2	1350	-1.7	2359	76.6	99.0	2342	51.0	1640	0.53	3.93	5.2	1156	3.3	2356	1017.41	1021.3	2356	1012.8	2
24	0.97	8.8	1341	-3.9	656	81.6	99.0	102	42.4	1232	-2.36	3.18	4.7	1101	2.7	1633	1018.04	1021.3	34	1015.5	1628
25	0.89	6.5	1420	-4.0	359	80.3	99.4	403	46.5	1528	-2.47	3.16	4.2	1139	2.6	1614	1016.83	1018.0	1052	1015.3	2359
26	4.05	9.4	1246	0.4	306	71.2	91.6	632	41.8	1346	-1.02	3.54	4.1	2014	2.8	1528	1009.55	1015.4	0	1006.2	1628
27	3.86	6.9	957	1.3	717	69.6	85.4	251	49.0	1517	-1.35	3.46	4.1	28	2.8	1517	1010.85	1016.2	2353	1006.7	30
28	4.04	9.3	1303	0.8	2008	69.5	82.7	411	44.8	1522	-1.22	3.45	4.6	1016	2.9	1726	1021.29	1026.6	2220	1016.1	0
29	4.04	8.9	1518	-2.9	631	72.1	99.0	634	46.3	1341	-1.00	3.49	4.3	1031	3.0	655	1026.43	1028.4	910	1023.3	2359

Total																					
Mean	5.63	9.50		1.61		80.2	95.78		56.59		2.26	4.64	5.73		3.67		1010.21	1015.46		1005.26	
Max	12.40	14.54		11.06		95.6	99.60		89.20		10.16	7.72	8.76		7.15		1033.40	1036.46		1026.84	
Min	0.89	5.08		-4.09		69.5	82.70		41.32		-2.47	3.16	3.86		2.54		986.71	993.60		982.71	

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
 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

Temperature (°C)

Mean maximum	10.6	(+2.5)	*Highest*
Mean minimum	4.4	(+2.6)	*Highest*
Daily mean	7.5	(+2.5)	*Highest*
Rainfall total (mm)	203.0	(121%)	33 rd highest
Sunshine total (hours)	209.8	(106%)	
N° of: Dry days	33 (-12)	Wet days	39 (+8)
Days with: Air frost	18 (-13)	Ground frost	40 (-11)
Thunder	1 (0)	Hail ≥5mm	0 (-1)
		Small hail/ice	4 (+1)
		Fog @09 GMT	1 (-5)
		Nil sun	24 (-5)
Air pressure MSL : Mean @09 GMT (mbar)	1012.3	(-4.3)	

Departure from 1981 to 2010 average shown in brackets.

Notes:

Mildest on Record, Wet, Quite Sunny, Windy at Times.

Temperature: Yet more records have been broken this winter season, the mildest for over 134 years, and probably long before that. This is not surprising bearing in mind the exceptional mildness of December. The mean temperature is 0.5° above the previous highest set in 2007, and the anomaly against the average for the past 39 years is 2.2 times the standard deviation. Both the mean maximum and mean minimum exceeded the previous highest, by 0.6° and 0.2° respectively. The season's highest temperature was 15.9° on the 17th December, 2.0° above the median and 9th highest in 112 years. The lowest max was 3.6° on the 19th January, 3.9° above the median and 4th highest in 103 years. The highest min was 13.1° on the 27th December, a new record in the past 103 years, and 3.2° above the median. The lowest min was -6.1° on the 20th January, 1.4° above the median. The mean grass minimum was 1.3°, 2.5° above normal and highest since 2007. The lowest grass min, -11.0° was on the 20th January, 2.1° above normal. The mean earth temperature at 30cm depth was 8.0°, and at 1 metre depth, 9.7°, both around 2° above normal and new record highs. The duration of air frost was 124.6 hours, 44% of average. December was the mildest month, mean 10.9°, and February the coldest, mean 5.6°. **Rainfall:** This winter provided 21% more rainfall than average, but while its ranking places it in the wet category, higher totals this millennium were recorded in 2014, 2010, 2007, 2003 and 2001, the 2014 total being the station record. This winter's rainfall is slightly odd as, despite the high total the highest daily fall, on the 3rd January, was only 12.5 mm, well below the median of 17.6 mm, and 14th lowest in 112 years. The duration of measurable rain was 193.1 hours, 116% of average. Snow was seen on the 17th January, but this was the only occasion this winter, and there were no days with snow lying at 0900 hours. A thunderstorm occurred overnight on the 11th January, again a sole occurrence. Ice pellets fell on the 3rd December, and the 9th, 11th and 30th of January. The highest rainfall rate was 66 mm/hr, and was reached on both the 3rd December and 11th January. January was the wettest month in terms of rainfall amount with 97.7 mm, and February the driest with 48.3 mm, but in terms of the anomaly, January had the highest with 158% and December the lowest with 91%, of average. The 12 day period 30th December to 10th January was the wettest with a total of 82.1 mm. There was one dry spell of 7 days ending on the 28th February. **Sunshine:** The sunshine total this winter is slightly above average, but in this millennium the total doesn't look as good, with 10 of the 16 winters having more sunshine than this one. The season's highest daily total was 8.9 hours on the 16th February. December was the dullest month, 46.2 hours, 84% of average, and February the sunniest, 93.9 hours, 117 % of average. The best sunny spell was the 11th to 19th February when, despite 2 sunless days, a total of 43.7 hours was recorded, a mean of 4.9 hours per day. The dullest period was the 10th to 22nd of December with a total of just 4.5 hours, mean 0.3 hours per day. Overall there were 58 days with <3 hours and 12 with =>6 hours. **Wind:** The mean wind speed this winter of 9.2 mph is 1.4 mph above average and highest since 1995. The highest gust of 58 mph on the 6th February is, however, close to normal. The windiest day was the 5th December, mean 18.4mph, also close to normal. The least windy day was the 19th January, mean 1.4 mph, and there were 1038 minutes, 17.3 hours, of calm. Daily mean direction/number of days: N,3 NE,3 E,5 SE,7 S,19 SW,42 W,9 NW,3. Compared with average SW winds were 11%, and S and SE combined, 8.2% more frequent, at the expense of NE, N and NW combined, 17.7% less frequent. **Humidity:** The mean relative humidity was 82.4%, and the lowest was 28% on the 19th January. The mean water vapour content per kg of air was 5.5 g at 0900 and 5.7 g at 1500 hours, both highest in the past 20 years. **Pressure:** The highest pressure this winter was on the 16th February, 1036.5 mbar, and the lowest was on the 11th January, 978.3 mbar, a span of 58.2 mbar, compared with an average of 63.8 mbar.

December: Incredibly mild with rainfall and sunshine below average and strong winds. Records broken for all temperature parameters, the mean temperature was 2.4° above the previous highest. The first December in 60 years to have no air frost. Windiest since 1993.

January: Mild and very wet with above average sunshine. Highest max 8th highest in 113 years. Earth temperatures are well above average and at 1 m depth equal highest with 2007 since before 1990. Rainfall in the highest 10% of values since 1882.

February: Temperature, rainfall and sunshine above average, windy at times. Earth temperatures well above average, at 1 m depth highest since before 1990. 4th sunniest this millennium.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Wind Mn mph	Max gust	Mean pressure	Anom
Dec	13.3°	+5.3°	8.6°	+6.5°	57.0	91%	46.2	84%	10.6	51	1018.5	+2.8
Jan	9.1°	+1.3	2.5°	+0.7°	97.7	158%	69.7	111%	8.3	43	1008.1	-8.6
Feb	9.2°	+1.0°	2.0°	+0.5°	48.3	113%	93.9	117%	8.8	58	1010.2	-7.2

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 2020. For some parameters, notably wind, the climatological average is not available, and if the word average is used in the context of wind, it refers to the average for the period for which data is held, namely 1988 to present.

For sunshine, there was a change, in July 1999, in the type of instrument used to detect sunshine amount, making the climatological average based on the old instrument of little use. In general, the new instrument produces higher values in the winter half year, and lower ones in the summer half, than the old type, due to a combination of faster reaction and higher sensitivity than the old type. The average used in this case is based on a theoretical equivalent 1981 to 2010 average, drawn from comparison with the Met Office published tables of departure from climatological average sunshine in the months since 2000 for their area 'Southern England'. Users of the Wokingham Monthly Weather reports should be aware of this, and regard anomalies for sunshine published therein as a guide only, until such time has elapsed since the introduction of the new instrument that a genuine average becomes available.

Mean: The mean of the data under discussion, often the monthly mean of daily data. The mean is obtained by summation of the individual values and dividing by the number of values. The term 'daily mean' in respect of temperature is defined as '(max + min) / 2'. A true daily 24 hour (00 to 24 GMT) mean temperature is available from the Automatic Weather Station (AWS), and is currently published on page 7 of the Wokingham Monthly Weather report, on the Wokingham Weather web site, page 1. <http://www.woksat.info/wwp1.html>

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

- a): The departure of a mean from the current climatological average.
- b): The departure of a value on a particular day from the average for that day, (this need not be a climatological average).

When the word anomaly is used in respect of temperature, any values given are in °C. In respect of rainfall or sunshine, percent. In respect of wind, mph. In respect of pressure, millibars (hpa).

Categories: Reference may be made in the reports to 'categories'. Each category has a strict statistical range, as outlined below.

Temperature: The terms cold/mild are used in the winter half year, and cool/warm in the summer half. The term 'normal' is used when the individual mean (monthly, seasonal or annual) value is within 20 % of the median of all ranked values for that month/season/year.

Mild/warm: The value lies between 10 % and 30 % below the highest value in the ranked series.

Very mild/very warm: The value lies within 10 % of the highest value in the ranked series.

Cold/cool: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very cold/very cool: The value lies within 10 % of the lowest value in the ranked series.

Sunshine: The terms for sunshine are very sunny, sunny, normal, dull and very dull.

The definition of these terms follow the same rules as for temperature.

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

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

Wet: The value lies between 10 % and 30% of the highest value in the ranked series.

Very wet: The value lies within 10 % of the highest value in the ranked series.

Dry: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very dry: The value lies within 10 % of the lowest value in the ranked series.

Long-term: Mention may be made in the reports to the 'long-term'. The long-term record comprises a temperature/rainfall/sunshine data series compiled from records of various weather stations in the Wokingham area in the years prior to the establishment of the weather station at Emmbrook in 1976 together with data from this station.

In the case of monthly max, min and mean temperature and of rainfall total the series starts in 1882. For temperature extremes, the highest max and lowest min go back to 1904, and lowest max and highest min to 1913.

Rank: The word rank refers to the position of a value for a particular month/season/year in the ranked series, and may be expressed relative to either the highest or lowest value in the series. The central value in the ranked series is known as the **median**. This value may be different from the average of the whole series if the population is skewed. It can also be different from the climatological average which only refers to a 30 year period.

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

When discussing 'winter', if a single year is given this refers to the year in which the January/February fall.

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

The climatological day: runs from 0900 to 0900 GMT. The max temperature and rainfall read at 0900 hours are attributed to the previous day (thrown back), as is the duration of measurable rain. The min temperature and grass min read at 0900 hours are attributed to the day of reading. Pressure read at 0900 GMT, and the monthly mean pressure is the mean of the 0900 GMT readings. Sunshine data, wind data, rainfall rate data and 24 hour data from the AWS use the normal 00-24 GMT day.

Frost: An air frost day is recorded when the minimum temperature read at 0900 GMT on that day is -0.1°C or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is -0.1°C or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below 0.0°C , and the day runs from midnight to midnight.

Snow: A day with snow falling is triggered if snow falls at any time in the 24 hours from midnight on that day. A day with snow lying is entered if there is at least 50% snow cover at the 0900 GMT observation.

Snow depth is the depth of undrifted snow. Snow that collects in the raingauge funnel is melted and the amount recorded as rainfall.

Hail: A day of hail is recorded if hailstones 5 mm or more in diameter are observed or recorded on the hail pad in a 24 hour period starting at midnight.

A day of small hail is recorded if hailstones less than 5 mm diameter are observed or recorded in a 24 hour period starting at midnight. The term small hail also includes various other types of ice meteor such as ice pellets, snow grains and some types of snow pellets.

Fog: A day with fog is recorded if the horizontal visibility at 0900 GMT is below 1000 m.

Thunder: A day of thunder is recorded if thunder is heard in the 24 hour period from midnight on that day. The appearance of lightning without thunder being heard does not qualify as a thunder day.

Trace of rainfall: A trace of rain, entered as 'tr' in the daily log, is recorded if rain is observed to fall but is of insufficient quantity to collect in the raingauge, or if the amount of rain in the gauge is less than 0.05 mm.

Dry spell: A dry spell is defined as a period of 5 or more consecutive dry days.

Dry day: A dry day is one with less than 0.2 mm of rainfall.

Rain day: A rain day is one with 0.2 mm or more of rainfall.

Wet day: A wet day is one having 1.0 mm or more of rainfall.

Appendix 2.

Explanation and decode for code figures used in the Wokingham 0900 and 1500 GMT observations

VV : Visibility.

Code figures 00 to 50 are in km and tenths e.g. 01 = 0.1 km = 100 m, 33 = 3.3 km, 50 = 5.0 km

Code figures 60 to 80. Subtract 50 to obtain visibility in km. e.g. 56 = 6 km, 65 = 15 km, 77 = 27 km.

Code figures 81 to 89. Subtract 50 and add 5 for every one above 80. e.g. 83 = 45 km, 86 = 60 km.

Code figure 89 = visibility above 70 km.

N : Total cloud amount in okta (eighths of sky covered). 9 = sky obscured (e.g. by fog or snow)

dd : Wind direction in tens of degrees from true north. Wind is measured at a height of 10 m, and the direction is the mean over a period of 10 minutes ending at the observation time.

ff : Wind speed in knots, measured at 10 m, and is the mean over a period of 10 minutes ending at observation time.

gg : Wind gust in knots at 10 m. The highest gust in the 60 minutes up to observation time.

TT : Air temperature at 1.2m, degrees C and tenths.

TdTd : Dew point temperature at 1.2m, degrees C and tenths.

RH : Relative humidity at 1.2m, %.

r : Humidity mixing ratio (amount of water vapour per kg of air), grams and tenths.

PPP : Air pressure reduced to MSL, millibars and tenths.

a : Characteristic of pressure tendency during the past 3 hours.

Code figures 0 to 3, pressure higher than 3 hours ago, 5 to 8, pressure lower than 3 hours ago

Code figure 0 = Increasing then decreasing, pressure the same as or higher than 3 hours ago

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

3 = Decreasing or steady then increasing, or increasing then increasing more rapidly

4 = Steady, pressure the same as 3 hours ago

5 = Decreasing then increasing, pressure lower than 3 hours ago

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

8 = Steady or increasing then decreasing, or decreasing then decreasing more rapidly

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

04 = Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes.

05 = Haze, visibility reduced by extremely small dry particles (RH less than appx. 95 %)

06 = Widespread dust in suspension, not raised by the wind near the station at the time of the observation

07 = Dust or sand raised by the wind at or near the station at the time of the observation, but no well-developed dust whirls or sand whirls, and no duststorm or sandstorm seen: In marine environments, blowing spray at the station.

08 = Well-developed dust or sand whirls seen at or near the station during the preceding hour or at the time of the observation, but no duststorm or sandstorm.

09 = Duststorm or sandstorm within sight at the time of the observation, or at the station during the preceding hour

10 = Mist
11 = Patches of shallow fog not deeper than 2 metres on land
12 = More or less continuous shallow fog not deeper than 2 metres on land
13 = Lightning visible, no thunder heard
14 = Precipitation within sight, not reaching the ground
15 = Precipitation within sight, reaching the ground more than 5 km from the station
16 = Precipitation within sight, reaching the ground, near to but not at the station
17 = Thunderstorm, but no precipitation at the time of the observation
18 = Squalls at or within sight of the station at the time of the observation or during the preceding hour
19 = Funnel cloud(s) at or within sight of the station at the time of the observation or during the preceding hour

20 = Drizzle (not freezing) at the station during the preceding hour but not at the time of the observation
21 = Rain (not freezing) at the station during the preceding hour but not at the time of the observation
22 = Snow at the station during the preceding hour but not at the time of the observation
23 = Rain and snow or ice pellets at the station during the preceding hour but not at the time of the observation
24 = Freezing drizzle or freezing rain at the station during the preceding hour but not at the time of the observation
25 = Shower(s) of rain at the station during the preceding hour but not at the time of the observation
26 = Shower(s) of snow or rain and snow at the station during the preceding hour but not at the time of the observation
27 = Shower(s) of hail or rain and hail at the station during the preceding hour but not at the time of the observation
28 = Fog or ice fog at the station during the preceding hour but not at the time of the observation
29 = Thunderstorm, with or without precipitation at the station during the preceding hour but not at the time of the observation

30 = Slight or moderate duststorm or sandstorm has decreased during the preceding hour
31 = Slight or moderate duststorm or sandstorm with no appreciable change during the past hour
32 = Slight or moderate duststorm or sandstorm has begun or increased during the past hour
33 = Severe duststorm or sandstorm has decreased during the preceding hour
34 = Severe duststorm or sandstorm with no appreciable change during the past hour
35 = Severe duststorm or sandstorm has begun or increased during the past hour
36 = Slight or moderate drifting snow generally below eye level
37 = Heavy drifting snow generally below eye level
38 = Slight or moderate blowing snow generally above eye level
39 = Heavy blowing snow generally above eye level

40 = Fog or ice fog at a distance at the time of the observation, but not at the station during the preceding hour, the fog extending to a level above that of the observer.
41 = Fog or ice fog in patches
42 = Fog or ice fog, sky visible has become thinner during the past hour
43 = Fog or ice fog, sky invisible has become thinner during the past hour
44 = Fog or ice fog, sky visible no appreciable change during the past hour
45 = Fog or ice fog, sky invisible no appreciable change during the past hour
46 = Fog or ice fog, sky visible has begun or become thicker during the past hour
47 = Fog or ice fog, sky invisible has begun or become thicker during the past hour
48 = Fog, depositing rime, sky visible
49 = Fog depositing rime, sky invisible

50 = Drizzle, not freezing, intermittent slight at time of observation
51 = Drizzle, not freezing, continuous slight at time of observation
52 = Drizzle, not freezing, intermittent moderate at time of observation
53 = Drizzle, not freezing, continuous moderate at time of observation
54 = Drizzle, not freezing, intermittent heavy at time of observation
55 = Drizzle, not freezing, continuous heavy at time of observation
56 = Drizzle, freezing, slight
57 = Drizzle, freezing, moderate or heavy (dense)
58 = Drizzle and rain, slight
59 = Drizzle and rain, moderate or heavy

60 = Rain, not freezing, intermittent slight at time of observation
61 = Rain, not freezing, continuous slight at time of observation
62 = Rain, not freezing, intermittent moderate at time of observation
63 = Rain, not freezing, continuous moderate at time of observation
64 = Rain, not freezing, intermittent heavy at time of observation
65 = Rain, not freezing, continuous heavy at time of observation
66 = Rain, freezing, slight
67 = Rain, freezing, moderate or heavy
68 = Rain or drizzle and snow, slight
69 = Rain or drizzle and snow, moderate or heavy

70 = Intermittent fall of snowflakes slight at time of observation
71 = Continuous fall of snowflakes slight at time of observation
72 = Intermittent fall of snowflakes moderate at time of observation
73 = Continuous fall of snowflakes moderate at time of observation
74 = Intermittent fall of snowflakes heavy at time of observation
75 = Continuous fall of snowflakes heavy at time of observation
76 = Diamond dust (with or without fog)
77 = Snow grains (with or without fog)
78 = Isolated star-like snow crystals (with or without fog)
79 = Ice pellets

80 = Rain shower(s), slight
81 = Rain shower(s), moderate or heavy
82 = Rain shower(s), violent
83 = Shower(s) of rain and snow mixed, slight
84 = Shower(s) of rain and snow mixed, moderate or heavy
85 = Snow shower(s), slight
86 = Snow shower(s), moderate or heavy
87 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, slight
88 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, moderate or heavy
89 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, slight
90 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, moderate or heavy

91 = Slight rain at time of observation, thunderstorm during the past hour but not at time of observation
92 = Moderate or heavy rain at time of observation, thunderstorm during the past hour but not at time of observation
93 = Slight snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
94 = Moderate or heavy snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
95 = Thunderstorm, slight or moderate, without hail but with rain and or snow at time of observation
96 = Thunderstorm, slight or moderate, with hail at time of observation
97 = Thunderstorm, heavy, without hail but with rain and or snow at time of observation
98 = Thunderstorm combined with duststorm or sandstorm at time of observation
99 = Thunderstorm, heavy, with hail at time of observation

Hail includes large hail, small hail and snow pellets.

W1, W2 : Past weather (for 0900 and 1500 GMT observations, the period covered is 3 hours)

Code figures:

- 0 = Cloud covering half or less of the sky throughout the period
- 1 = Cloud covering more than half the sky during only part of the period
- 2 = Cloud covering more than half the sky throughout the period
- 3 = Sandstorm, duststorm or blowing snow
- 4 = Fog or ice fog or thick haze (visibility less than 1000 m)
- 5 = Drizzle
- 6 = Rain
- 7 = Snow or rain and snow mixed
- 8 = Shower(s)
- 9 = Thunderstorm(s) with or without precipitation

Nh : Amount of low cloud, or medium cloud if no low cloud present, okta

Cl : Type of low cloud

- 0 = No low cloud
- 1 = Cumulus with little vertical extent and seemingly flattened, or ragged Cumulus other than bad weather, or both
- 2 = Cumulus of moderate or strong vertical extent, either accompanied or not by other Cumulus or Stratocumulus all having their bases at the same level
- 3 = Cumulonimbus whose summits, at least partially, lack sharp outline, but are neither clearly fibrous (cirriform), nor in the form of an anvil; Cumulus, Stratocumulus or Stratus may also be present
- 4 = Stratocumulus formed by the spreading out of Cumulus; Cumulus may also be present
- 6 = Stratus in a more or less continuous sheet or layer, or ragged shreds, or both, but no Stratus fractus of bad weather
- 7 = Stratus fractus of bad weather or Cumulus fractus of bad weather or both (pannus), usually below Altostratus or Nimbostratus
- 8 = Cumulus and Stratocumulus other than that formed by the spreading out of Cumulus, the bases of the Cumulus and Stratocumulus are not at the same level.
- 9 = Cumulonimbus, the upper part of which is clearly fibrous (cirriform), often in the form of an anvil, either accompanied or not by any other type(s) of low cloud
- / = Types of low cloud invisible due to darkness, fog, blowing dust or sand or other similar phenomena.

'Bad weather' denotes the conditions which generally exist during precipitation and a short time before and after.

Cm : Type of medium cloud.

- 0 = No medium cloud.
- 1 = Altostratus, the greater part of which is semi-transparent; through this part the sun or moon may be weakly visible, as through ground glass
- 2 = Altostratus, the greater part of which is sufficiently dense to hide the sun or moon, or Nimbostratus
- 3 = Altocumulus, the greater part of which is semi-transparent; the various elements of the cloud change only slowly and are all at a single level
- 4 = Altocumulus in patches (often in the form of almonds or fishes), the greater part of which is semi-transparent ; the clouds occur at one or more levels and the elements are continually changing in appearance
- 5 = Altocumulus in bands semi-transparent, of Altocumulus in one or more fairly continuous layers (semi-transparent or opaque), progressively invading the sky; these Altocumulus clouds generally thicken as a whole
- 6 = Altocumulus resulting from the spreading out of Cumulus (or Cumulonimbus)
- 7 = Altocumulus in two or more layers, usually opaque in places, and not progressively invading the sky; or opaque layer of Altocumulus not progressively invading the sky; or Altocumulus together with Altostratus or Nimbostratus
- 8 = Altocumulus with sproutings in the form of small towers or battlements, or Altocumulus having the appearance of cumuliform tufts
- 9 = Altocumulus of a chaotic sky, generally at several levels
- / = Types of medium cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

Ch : Type of high cloud

0 = No high cloud

1 = Cirrus in the form of filaments, strands or hooks, not progressively invading the sky.

2 = Dense cirrus, in patches or entangled sheaves, which usually do not increase and sometimes seem to be the remains of the upper part of a Cumulonimbus; or Cirrus with sproutings in the form of small turrets or battlements, or Cirrus having the appearance of cumuliform tufts

3 = Dense Cirrus, often in the form of an anvil, being the remains of the upper part of Cumulonimbus, or where the rest of the Cumulonimbus is below the horizon

4 = Cirrus in the form of hooks or filaments, or both, progressively invading the sky; they generally become denser as a whole

5 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole, but the continuous veil does not reach 45 degrees above the horizon.

6 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole; the continuous veil extends more than 45 degrees above the horizon, without the sky being totally covered

7 = Veil of Cirrostratus covering the celestial dome.

8 = Cirrostratus not progressively invading the sky and not completely covering the celestial dome

9 = Cirrocumulus alone, or accompanied by Cirrus or Cirrostratus, or both, but Cirrocumulus is predominant.

/ = Types of high cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

/ = Cloud type not visible owing to darkness, fog, duststorm, or other analogous phenomena.

hshs = Height of cloud above station level reported by type C

00 to 50 = Height in hundreds of feet

51 to 55 Not used

56 to 80 = Subtract 50 to obtain cloud height in thousands of feet

81 to 88 = Height of cloud between 35000 and 70000 ft in 5000 ft steps.