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 **JANUARY 2023**

Temperature (°C)		Anomaly	Rank in the past **142** years		
Mean maximum	8.5	+0.4	41st highest		
Mean minimum	1.9	-0.1	57th highest		
Daily mean	5.2	+0.1	43rd highest		
Highest maximum	13.5	on 4th	Lowest maximum	-0.3	on 17th
Highest minimum	9.9	on 5th	Lowest minimum	-6.4	on 23rd
Mean grass minimum	-1.3	-0.2	Lowest grass minimum	-9.5	on 17th
Mean earth @30 cm	6.0	+0.3	Earth @100 cm	7.7	0.0
Frost duration (hrs)	145.3		Rain duration (hrs)	51.0	
Rainfall total (mm)	72.7	110%	43rd highest		
Highest daily fall	12.9	on 15th	Highest rate mm/hr	71	on 12th

Number of: Dry days (<0.2mm) 15 Wet days (>0.9mm) 13 days ≥5mm 5

Sunshine total (hrs) 93.4 Daily mean 3.01 128% Sunniest day 8.1 on 21st

Nº days with: Air frost 11 Ground frost 18 Snow falling 0 Snow lying 0

Thunder 0 Hail ≥5mm 1 Small hail/ice 0 Fog @09 3 Nil sun 6

Pressure MSL : Mean @09 GMT, mbar 1015.2 -1.1 Highest 1040.5 on 24th Lowest 982.5 on 16th

Relative humidity : Mean (%) 86.6 Lowest 54 on 31st Water vapour (g/kg), mean at 09 and 15 GMT 4.9, 5.2

Overall mean wind speed (mph) 8.3 Windiest day 15.0 on 12th Max gust 45 on 4th

Wind direction (days) N 5 NE 0 E 0 SE 0 S 3 SW 14 W 5 NW 4

Least windy day (mph) 2.3 on 17th Calm; less than 0.5 mph (minutes) 238

Anomaly = departure from 1991 to 2020 average (degrees C, percent and mbar).

Notes: **Above Average Rainfall and Sunshine, Near Average Temperature**

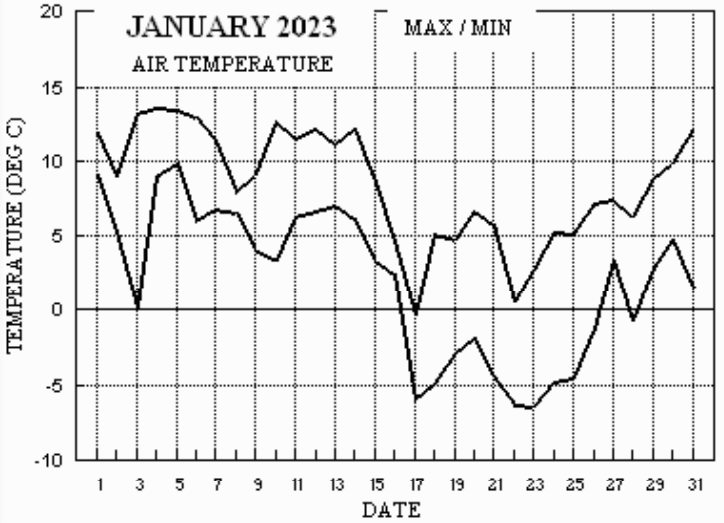
Temperature: The mean this January, while close to the current 30 year average, is 0.8° above the 142 year median. The month comprised of two distinct regimes, wet, mild and windy until the 15th, then an abrupt change to dry, cold and calmer. The highest max is 1.0° above the long-term median while the lowest max is 1.3° below its median, and the first January since 2013 with a day where the temperature failed to climb above zero. It is only the 3rd such January in this millennium, although there were 9 in the previouss 23 years. The highest min is 1.4° above the median and the lowest min is 0.5° below its median. The mean and lowest grass min are close to average, as are the mean earth temperature at 30 cm and 1m depth. However, the lowest daily value at 1m depth, 5.7°, is 2nd lowest after 2017 since 1997. The number of frosts, both air and ground, are exactly average, and 3rd highest in this millennium. Anomalies for daily max were above +5° on the 3rd to 6th and 10th, and exceeded -5° on the 17th, 22nd and 23rd, with extreme values of +5.5° on 5th and -7.4° on 17th. Anomalies for daily min were above +5° on the 1st, 4th, 5th and 11th to 14th, and exceeded -5° on the 17th, 18th and from 21st to 25th, with extreme values of +8.3° on the 5th and -8.3° on the 22nd and 23rd. **Rainfall:** The total this January is 10% above average, but 2021, 2016 and 2014 were wetter in recent years, 2014 being the wettest January on record with over twice this month's total. All but 0.8 mm of this month's total fell before the 16th, and 15 of the final 16 days were dry while 13 of the first 15 days were wet. A dry spell of 9 days ended on the 24th and another was unbroken on the 31st after 6 days. The highest daily fall is exactly average, but is 1.0 mm below the long-term median. Hail with stones up to 8 mm diameter fell on the 8th, and the rainfall rate exceeded the violent category threshold on the 8th, 12th and 14th, but there was no thunder or snow. Freezing fog depositing rime ice occurred on the 22nd, 23rd and 25th, with freezing drizzle on the latter day, fortunately of insufficient duration and intensity to cause significant black ice. Daily accumulation compared with normal was 3 mm in surplus on the 7th, increasing to 42 mm by the 15th, though with little further rain the surplus fell to 11 mm by the 31st. **Sunshine:** This has been a very sunny January, and is equal 2nd sunniest after 2022 and 2012 since 2003. The 4 days to the 21st were particularly sunny giving a mean of 7.5 hours per day. Sunshine accumulation compared with normal was in deficit by 9 hours on the 12th, decreasing to 5 hours by the 17th, becoming a surplus of 23 hours by the 24th, decreasing to 20 hours by the 31st. Overall there were 16 days with <3 hours and 7 with =>6 hours. **Wind:** The mean speed this January is 0.4 mph above average and highest since 2018. The highest gust is 6 mph below average. Daily mean speeds were mainly fresh from the 1st to the 15th, but strong on the 7th and 12th, and light on the 2nd. After the 15th they were light or moderate. Directions were between W and N on the 16th and from 20th to 28th, otherwise between S and W.

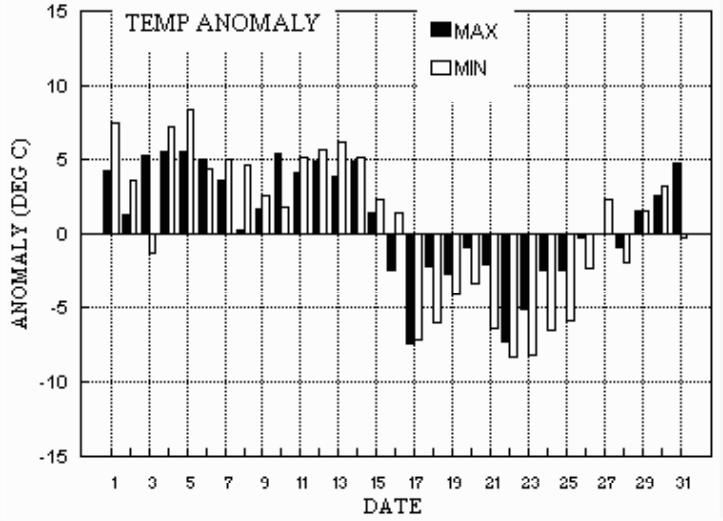
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

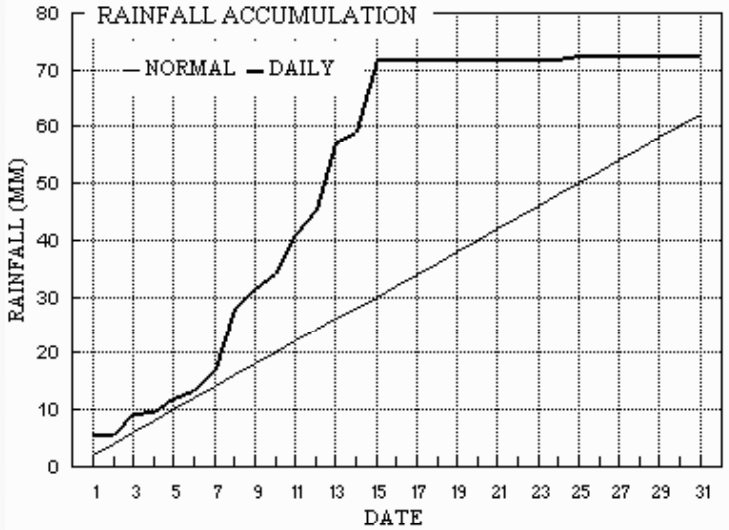
From the 1st to the 10th				From the 11th to the 20th				From the 21st to the 31st			
+3.7°	+4.4°	161%	66%	+0.3°	+0.5°	177%	177%	-1.0°	-3.0°	3%	140%

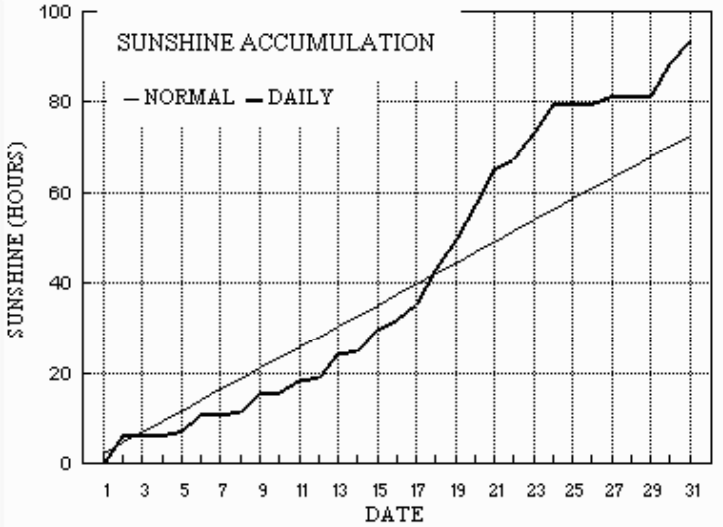
B J Burton FRMetS. Hon. Met. Officer to Wokingham Town Council.

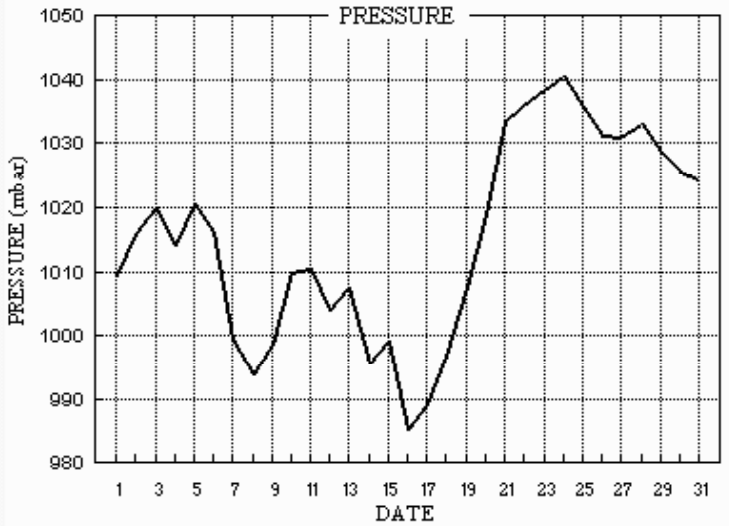
Wokingham climatological graphs for January 2023

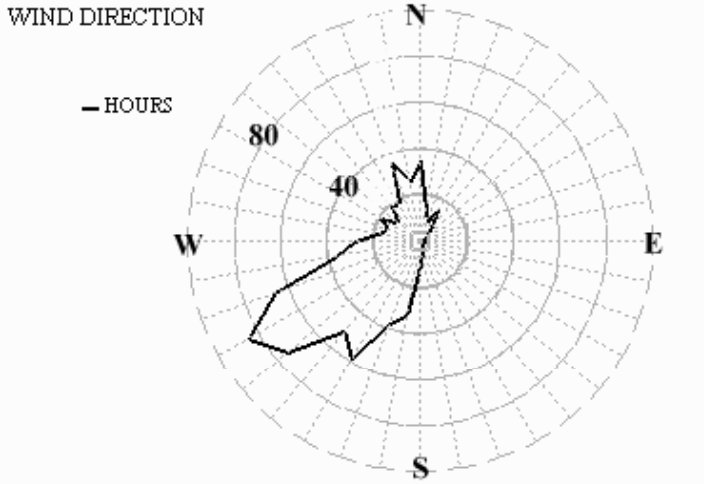


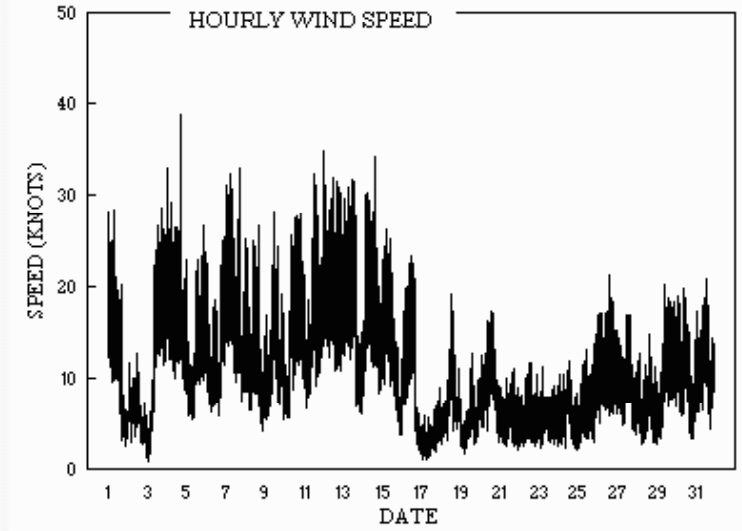


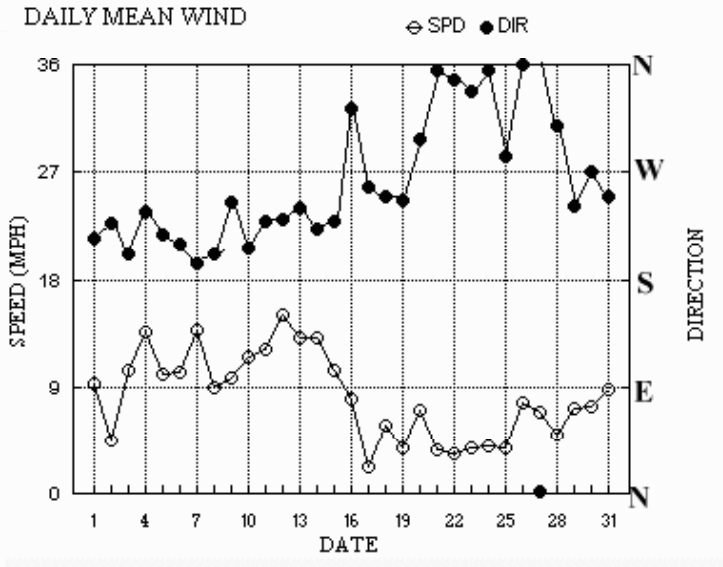












Daily meteorological data. Emmbrook, WOKINGHAM, Berkshire.

Month: JANUARY 2023

Date	Max	Min	Rain	Grass	30cm	100cm	Sun	Frost	pp09	Af	Sf	Th	Ic	Vec mean			Max gust			High hr			Rain
	C	C	mm	Min	C	C	hrs	hrs	mbar	Gf	Sl	Ha	Fg	ddd	ff	sp	ddd	gg	HHhh	ddd	ff	HH	hrs
1	11.9	9.1	5.6	6.8	8.4	8.3	0.0	0.0	1009.3	0 0 0 0		0 0 0 0		215	7.9	8.1	226	28	0852	226	13	01	5.8
2	9.0	5.2	0.2	0.1	8.2	8.4	6.3	0.0	1015.7	0 0 0 0		0 0 0 0		227	3.3	4.0	267	13	1153	256	6	12	0.4
3	13.2	0.2	3.4	-4.4	7.4	8.5	0.0	0.0	1020.1	0 1 0 0		0 0 0 0		201	8.5	9.0	207	29	1729	222	14	23	2.9
4	13.5	9.0	0.6	9.9	7.9	8.5	0.3	0.0	1014.1	0 0 0 0		0 0 0 0		236	11.6	11.8	266	39	1631	224	15	01	0.3
5	13.4	9.9	2.2	6.4	8.4	8.5	0.8	0.0	1020.6	0 0 0 0		0 0 0 0		218	8.6	8.8	207	27	2225	210	14	22	1.7
6	12.9	6.0	1.5	2.3	8.6	8.6	3.6	0.0	1016.2	0 0 0 0		0 0 0 0		209	8.4	8.9	204	26	2357	201	12	19	1.6
7	11.4	6.8	3.6	8.7	8.7	8.7	0.2	0.0	999.6	0 0 0 0		0 0 0 0		193	11.8	12.0	234	33	1726	188	15	03	3.4
8	7.9	6.5	10.8	3.6	8.6	8.8	0.1	0.0	993.7	0 0 0 0		0 1 0 0		201	7.7	7.9	267	27	1616	211	11	03	3.6
9	9.1	4.1	3.7	-0.5	7.8	8.9	4.2	0.0	998.6	0 1 0 0		0 0 0 0		245	8.0	8.5	261	28	1129	264	13	12	3.0
10	12.7	3.3	2.6	-1.2	7.3	8.8	0.0	0.0	1010.0	0 1 0 0		0 0 0 0		206	9.5	10.0	244	28	2138	220	14	13	3.3
11	11.5	6.3	6.8	3.0	7.8	8.7	3.1	0.0	1010.6	0 0 0 0		0 0 0 0		228	10.6	10.6	250	32	1258	237	14	15	8.4
12	12.1	6.6	4.4	5.5	7.9	8.7	0.4	0.0	1004.0	0 0 0 0		0 0 0 0		230	12.9	13.0	234	35	0023	228	16	01	1.9
13	11.1	7.0	11.8	4.0	8.0	8.7	5.7	0.0	1007.4	0 0 0 0		0 0 0 0		240	10.9	11.4	260	32	1139	258	15	13	5.9
14	12.1	6.1	1.8	1.4	7.9	8.7	0.1	0.0	995.6	0 0 0 0		0 0 0 0		223	10.3	11.4	261	34	1529	204	15	08	1.8
15	8.6	3.4	12.9	0.5	7.6	8.6	5.2	0.0	999.2	0 0 0 0		0 0 0 0		228	8.1	9.1	217	26	0525	230	13	05	5.5
16	4.6	2.4	tr	-0.7	7.0	8.6	2.0	5.6	985.3	0 1 0 0		0 0 0 0		323	5.2	6.9	295	23	1251	302	12	14	0.1
17	-0.3	-6.0	0.0	-9.5	6.0	8.5	3.3	24.0	988.9	1 1 0 0		0 0 0 0		257	1.4	2.0	229	9	2349	244	4	23	0.0
18	5.1	-4.9	0.0	-8.6	4.9	8.2	7.6	9.7	996.7	1 1 0 0		0 0 0 0		249	4.5	5.1	265	19	1335	296	9	14	0.0
19	4.8	-2.9	0.0	-7.3	4.3	7.9	6.9	14.6	1007.4	1 1 0 0		0 0 0 0		247	2.8	3.4	333	13	1413	307	6	14	0.0
20	6.7	-1.9	0.0	-7.3	3.8	7.5	7.4	4.6	1018.7	1 1 0 0		0 0 0 0		297	5.2	6.2	293	17	1327	324	9	17	0.0
21	5.8	-4.4	0.0	-8.5	3.6	7.2	8.1	16.8	1033.3	1 1 0 0		0 0 0 0		354	2.6	3.2	334	11	1708	34	5	14	0.0
22	0.6	-6.3	0.0	-9.4	3.3	6.9	2.3	22.4	1036.2	1 1 0 0		0 0 0 1		347	2.9	3.0	343	12	1435	352	4	14	0.0
23	2.7	-6.4	tr	-8.7	3.1	6.6	5.8	16.1	1038.5	1 1 0 0		0 0 0 1		337	2.9	3.4	318	11	0400	291	5	09	0.0
24	5.2	-4.8	tr	-4.9	3.1	6.4	6.2	19.0	1040.5	1 1 0 0		0 0 0 0		354	3.3	3.6	19	12	1342	23	6	12	0.0
25	5.1	-4.5	0.8	-8.0	2.9	6.2	0.0	11.1	1035.9	1 1 0 0		0 0 0 1		283	2.2	3.4	3	15	2341	6	6	23	1.0
26	7.2	-1.2	tr	-3.2	2.8	6.0	0.3	0.0	1031.2	1 1 0 0		0 0 0 0		359	6.7	6.7	16	21	1522	17	8	15	0.3
27	7.4	3.4	tr	0.4	2.9	5.8	1.3	1.4	1031.1	0 0 0 0		0 0 0 0		3	5.8	6.0	9	17	1214	27	8	15	0.0
28	6.3	-0.7	tr	-5.4	3.4	5.7	0.0	0.0	1033.2	1 1 0 0		0 0 0 0		309	3.9	4.4	294	15	1537	347	7	03	0.0
29	8.8	2.9	tr	-1.2	4.0	5.8	0.0	0.0	1028.7	0 1 0 0		0 0 0 0		242	6.2	6.3	234	20	1002	253	9	21	0.1
30	9.9	4.7	0.0	-0.8	4.5	5.8	7.3	0.0	1025.6	0 1 0 0		0 0 0 0		270	5.9	6.4	294	20	1128	294	10	11	0.0
31	12.1	1.4	0.0	-3.6	4.6	5.9	4.9	0.0	1024.5	0 1 0 0		0 0 0 0		250	7.4	7.7	256	21	1540	271	12	14	0.0
Total			72.7				93.4	145.3															51.0
Mean	8.5	1.9		-1.3	6.0	7.7	3.01	4.7	1015.2					239	4.8	7.2							
Anom	+0.4	-0.1	110%	-0.2	+0.3	-0.0	128%		-1.1														

Daily mean 5.2 Pressure, abs highest = 1040.5 on 24

Anom +0.1 Pressure, abs lowest = 982.5 on 16

Number of days with:

Air frost = 11 Ground frost = 18 Nil sun = 6

Snow falling = 0 Snow lying = 0 Thunder = 0

Hail=>5mm = 1 Hail<5mm or ice = 0 Fog at 09GMT = 3

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.

Maximum daily rain rate in mm/hr

All temperatures in degrees Celsius.

Anomaly - Departure from the 1991 to 2020 climatological average

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for JANUARY 2023

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ct	NChshs	NChshs	NChshs	Date	Remarks
1	20	7	23	14	28	9.1	6.5	84	6.0	1009.3	2	020	81	8	2	7	3	4	/	1	85915	83635		1	/Ci75 COTRA Hvy ra sh
2	77	5	24	04	10	5.7	5.3	97	5.5	1015.7	3	033	02	1	1	1	8	5	7	0	81820	84368		2	1Sc35 1Ac63 Cu med
3	61	8	18	10	18	9.0	8.1	94	6.6	1020.1	7	010	60	6	2	7	5	4	2	/	86710	87615	88550	3	
4	75	7	24	12	25	13.2	10.4	83	7.8	1014.1	2	016	15	6	2	7	8	4	/	1	83818	85630	85656	4	/Ci70 Cu med jpNW-N
5	60	7	20	04	11	10.9	9.5	91	7.3	1020.6	5	002	05	2	2	7	5	3	/	1	83708	86612	85645	5	/Ci75 COTRA
6	84	6	21	08	15	6.7	5.0	89	5.4	1016.2	2	008	03	1	1	1	5	5	4	4	81625	86075		6	1Ac69 COTRA
7	57	8	18	13	30	10.4	9.0	91	7.2	999.6	7	031	61	6	2	7	5	3	2	/	83709	87612	88550	7	
8	60	6	17	07	12	7.2	6.1	93	6.0	993.7	8	015	80	8	1	3	9	3	6	3	82708	82915	83360	8	5Ci68
9	62	6	23	10	15	5.8	4.3	90	5.2	998.6	2	031	03	1	1	5	5	5	0	3	81620	85628		9	3Ci70 Cb top S
10	56	8	19	11	26	7.4	6.3	93	5.9	1010.0	7	033	63	6	6	7	7	3	2	/	87708	88540		10	
11	70	1	21	09	16	6.4	4.6	88	5.3	1010.6	2	014	01	1	1	1	6	4	0	2	81712			11	1Sc40 1Ci73
12	68	8	22	12	25	11.5	10.1	91	7.7	1004.0	1	007	60	6	2	7	5	4	2	/	87611	88550		12	
13	75	1	25	13	26	8.1	3.6	73	4.9	1007.4	2	027	02	0	0	1	8	5	0	0	81820			13	1Sc35 Cu fra/hum
14	30	8	21	14	30	11.1	10.3	95	7.9	995.6	7	044	58	6	6	7	7	3	2	/	85706	87709	88520	14	
15	81	5	24	11	23	5.4	2.2	80	4.5	999.2	3	001	25	8	1	2	5	5	3	2	82620	83072		15	2Ac62
16	58	7	33	08	20	3.1	2.1	93	4.5	985.3	2	023	05	2	2	7	6	3	1	/	87707			16	/As62
17	68	7	33	01	04	-4.9	-5.4	96	2.6	988.9	2	010	02	2	2	0	0	9	0	2	87069			17	COTRA Ci spi ra Hoar mod lcy pat
18	70	1	23	05	10	-0.9	-1.9	93	3.4	996.7	2	020	01	1	1	1	0	9	3	2	81363			18	1Ci69 Hoar thk. Gnd frzn
19	70	6	19	04	06	-1.8	-2.1	98	3.3	1007.4	2	008	01	2	2	1	5	7	1	2	81656	84466	86071	19	COTRA U/a cont Hoar mod
20	82	1	26	03	10	1.8	-1.1	81	3.5	1018.7	2	020	02	1	1	1	5	5	0	0	81622			20	1Sc40 Hoar slt
21	30	1	30	03	10	-3.5	-3.9	97	2.8	1033.3	2	025	10	0	0	1	5	5	0	1	81625			21	1Ci75 Hoar mod
22	01	7	33	03	08	-4.7	-5.1	97	2.5	1036.2	3	005	48	4	1	7	6	0	/	/	87701			22	Hoar thk vv 100m
23	01	9	36	01	04	-4.9	-5.3	97	2.5	1038.5	2	010	49	4	4	9	/	/	/	/				23	vv 120m Rime needles 5mm. Wind est
24	59	1	33	03	08	-1.1	-1.7	96	3.3	1040.5	2	013	10	1	1	1	5	4	0	0	81615			24	Hoar slt. Wind sensor unreliable
25	02	8	26	03	08	-1.2	-1.3	99	3.4	1035.9	6	012	56	5	4	8	6	0	/	/	88701			25	VV250m Rime slt. No glaze yet. Wind est
26	82	5	35	08	15	3.9	1.8	86	4.2	1031.2	1	011	02	2	2	5	8	4	0	0	81814	85630		26	Cu hum
27	75	8	35	06	12	4.2	1.9	85	4.3	1031.1	3	005	01	2	2	8	5	5	/	/	88627			27	
28	62	7	31	03	06	2.9	0.5	84	3.8	1033.2	2	006	02	2	2	7	5	6	/	/	87635			28	
29	58	8	23	05	12	5.0	3.5	90	4.8	1028.7	6	007	05	5	2	8	6	3	/	/	87707			29	/Sc45
30	70	6	27	07	12	5.8	1.9	76	4.3	1025.6	2	021	03	1	1	5	0	9	3	1	85368	83080		30	COTRA
31	72	7	24	08	15	6.8	4.8	87	5.3	1024.5	7	006	02	2	2	7	5	4	/	/	87612			31	

Mean vis = 16.3 km
Mean cloud = 5.8 72%
Mean wind speed = 7.2 kn
Mean gust = 15 kn
Mean TT = 4.5 °C
Mean TdTd = 2.9 °C
Mean RH = 89.9 %
Mean r = 4.9 g/kg
Mean PPP = 1015.2 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 JANUARY 2023

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cm	Ch	NChshs	NChshs	NChshs	Date	Remarks
1	61	8	20	08	19	11.5	8.5	82	6.9	1008.9	7	007	03	2	2	3	8	4	2	/		81818	83650	88457	1	Cu med
2	88	1	26	05	11	7.1	1.4	67	4.2	1020.2	2	021	01	0	0	1	4	5	0	1		81828			2	1Sc30 1Ci78 Cu hum
3	58	7	20	13	24	10.4	9.5	94	7.3	1015.9	8	024	58	5	2	7	7	3	/	/		87708	87625		3	
4	70	7	24	14	24	12.5	8.4	76	6.8	1014.9	0	001	15	8	2	7	8	5	/	/		83820	86630	85650	4	/Ci80 COTRA jpW
5	64	7	23	11	23	12.6	9.6	82	7.4	1018.1	7	016	02	2	2	6	8	4	/	8		81818	85635	87275	5	3Sc50 Cu hum COTRA
6	86	7	19	08	16	10.7	8.5	86	6.9	1013.0	7	021	03	2	2	7	5	4	3	/		84612	87620		6	/Ac65
7	62	6	20	11	20	11.1	8.8	86	9.2	995.7	7	021	25	8	6	6	3	4	6	/		81912	82815	83622	7	1Ac60 jpS
8	65	7	19	09	22	7.4	6.0	91	5.9	989.2	7	025	60	6	2	2	5	3	2	/		81708	86540		8	2Sc35 /Ac58 Rainbow
9	65	6	26	07	22	8.6	2.4	65	4.5	1006.1	2	036	25	8	1	6	8	6	/	3		82825	83632		9	4Sc50 1Ci68 jpW vv40k ex p Cb top E
10	40	8	22	12	25	12.5	11.1	91	8.2	1004.2	6	022	50	5	2	8	5	3	/	/		82708	86712	88618	10	
11	50	8	21	09	19	8.0	5.6	85	5.7	1008.8	5	019	62	6	2	7	5	5	2	/		82620	87628	88535	11	
12	80	6	24	11	25	11.4	9.0	85	7.2	1001.8	5	010	25	8	6	3	8	5	7	/		81820	83637	85357	12	Cu fra Ac edge NE-SW ovhd
13	80	2	25	13	32	9.8	3.5	65	4.9	1012.3	3	022	03	1	1	1	8	5	0	4		81828			13	1Sc35 2Ci80 COTRA Cu hum
14	80	7	26	12	28	10.1	6.3	77	6.0	997.4	2	019	15	2	2	3	8	4	7	2		82810	85365		14	2Sc20 /Ci70 Cu med jpNE vv70k ex p
15	84	2	25	09	17	6.7	1.8	71	4.4	998.7	7	013	01	8	1	1	8	5	6	2		81825			15	1Sc30 1Ac63 2Ci70 Cu hum
16	86	3	31	12	23	3.9	-1.1	70	3.6	988.1	2	010	01	8	1	3	8	5	0	0		82828			16	1Sc35 Cu med
17	75	7	27	02	05	-0.4	-2.0	89	3.3	990.2	3	006	02	2	2	0	0	9	0	2		83070	87075		17	COTRA Ci spt ra Hoar slt in shade
18	82	1	30	08	17	4.6	-0.2	71	3.8	1000.1	3	014	01	0	0	1	8	5	0	1		81825			18	1Sc35 1Ci69 Cu hum
19	82	1	30	05	13	4.3	-0.7	70	3.6	1008.0	3	003	02	0	0	1	8	5	0	0		81825			19	1Sc40 Cu med
20	82	1	31	09	15	5.7	0.3	68	3.8	1020.7	2	007	02	0	0	1	1	5	0	0		81825			20	Cu hum
21	72	0	04	05	09	4.8	0.2	72	3.8	1033.5	5	002	02	0	0	0	0	9	0	0					21	Hoar slt in shade
22	01	7	35	04	12	-0.3	-0.6	98	3.6	1035.5	5	007	41	4	2	0	0	9	0	8		85171	87274		22	vv 150m Hoar slt in shade
23	59	1	08	02	04	2.6	1.3	91	4.1	1037.4	7	012	02	0	0	0	0	9	0	1		81075			23	COTRA Hoar/rime thk in shade Wind est
24	62	1	02	05	13	3.7	0.4	79	3.8	1038.6	6	011	01	1	1	1	5	4	0	0		81618			24	
25	25	8	22	04	10	2.5	2.1	97	4.3	1030.7	7	022	10	5	2	8	6	2	/	/		88704			25	
26	65	7	01	06	15	6.8	4.6	86	5.2	1031.1	6	004	25	8	2	7	8	4	/	/		83815	86632		26	Cu med jpNW&S
27	82	7	02	08	15	6.4	0.9	68	4.0	1030.8	5	001	02	2	2	7	5	5	/	/		87628			27	
28	75	8	27	05	10	6.3	0.6	67	3.9	1031.8	6	007	02	2	2	8	5	6	/	/		88630			28	
29	56	7	26	06	15	8.5	6.8	89	6.0	1024.2	7	028	50	5	2	7	5	3	/	/		86708	87612		29	
30	78	1	30	07	16	9.0	2.1	62	4.4	1026.2	2	003	02	1	1	1	8	6	0	1		81830			30	1Sc33 1Ci80 COTRA Cu hum
31	75	2	28	11	24	10.8	2.9	58	4.6	1024.6	3	005	02	1	1	2	8	5	0	1		82828			31	1Sc40 1Ci80 Cu hum

Mean vis = 24.6 km
Mean cloud = 4.9 61%
Mean wind speed = 8.1 kn
Mean gust = 18 kn
Mean TT = 7.4 °C
Mean TdTd = 3.8 °C
Mean RH = 78.6 %
Mean r = 5.2 g/kg
Mean PPP = 1014.7 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)-
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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

2023

Hour	01-Jan	02-Jan	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan
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	0.00	0.00	0.00	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	0.14	0.00	0.00	0.00	0.38	0.00	0.00	0.33	0.00	0.04	0.00	0.55	0.00	0.04	0.00
9	0.00	0.64	0.00	0.00	0.00	1.00	0.00	0.00	0.17	0.00	1.00	0.00	1.00	0.00	0.83	0.00
10	0.00	1.00	0.00	0.00	0.05	0.67	0.00	0.00	0.95	0.00	1.00	0.00	0.88	0.00	0.96	0.00
11	0.00	1.00	0.00	0.00	0.01	0.84	0.00	0.00	0.98	0.00	1.00	0.00	0.07	0.00	0.53	0.00
12	0.00	0.98	0.00	0.01	0.03	0.40	0.00	0.00	0.97	0.00	0.07	0.00	0.41	0.00	0.45	0.14
13	0.00	0.63	0.00	0.17	0.07	0.27	0.00	0.00	0.37	0.00	0.00	0.00	0.92	0.06	0.44	0.17
14	0.00	0.98	0.00	0.15	0.67	0.00	0.14	0.02	0.31	0.00	0.00	0.00	1.00	0.04	0.96	0.54
15	0.00	0.95	0.00	0.00	0.00	0.00	0.11	0.09	0.09	0.00	0.00	0.38	0.81	0.00	0.98	0.93
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	0.09	0.00	0.00	0.27
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	**0.00**	**6.33**	**0.00**	**0.34**	**0.84**	**3.56**	**0.24**	**0.09**	**4.18**	**0.00**	**3.11**	**0.38**	**5.74**	**0.10**	**5.18**	**2.04**

Hour	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan	Mean
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	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	0.50	0.00	0.69	0.68	0.00	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.80	0.00	0.14
9	0.01	1.00	0.85	1.00	1.00	0.00	0.01	0.64	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.32
10	0.00	1.00	1.00	0.68	1.00	0.00	0.33	0.88	0.00	0.00	0.00	0.00	0.00	1.00	0.50	0.38
11	0.14	1.00	0.73	0.91	1.00	0.02	1.00	0.35	0.00	0.00	0.88	0.00	0.00	0.63	1.00	0.39
12	0.90	1.00	0.94	0.84	1.00	0.77	1.00	0.83	0.00	0.00	0.19	0.00	0.00	0.84	0.54	0.40
13	1.00	0.94	1.00	0.95	1.00	0.60	1.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.32	0.38
14	1.00	0.96	1.00	1.00	1.00	0.90	1.00	1.00	0.00	0.05	0.00	0.00	0.00	1.00	0.94	0.47
15	0.23	0.99	1.00	1.00	1.00	0.02	1.00	1.00	0.00	0.09	0.09	0.00	0.00	1.00	1.00	0.41
16	0.00	0.21	0.33	0.36	0.37	0.00	0.45	0.44	0.00	0.00	0.15	0.00	0.00	0.39	0.61	0.12
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	**3.27**	**7.59**	**6.85**	**7.44**	**8.05**	**2.32**	**5.79**	**6.17**	**0.00**	**0.27**	**1.30**	**0.00**	**0.00**	**7.34**	**4.91**	**93.43**

JANUARY 2023	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	9.77	11.9	1332	6.5	2335	85.4	96.6	2350	72.0	1621	7.4	6.4	7.3	1	5.4	1621	1008.02	1010.1	1055	1003.1	1	6.4
2	4.96	8.8	1313	0.2	2101	91.4	98.6	508	66.5	1440	3.6	4.9	6.0	551	3.7	2101	1017.43	1023.8	2103	1009.2	7	0.2
3	8.00	12.5	2213	0.4	332	94.8	99.5	556	88.6	2359	7.2	6.4	8.3	2116	3.8	332	1017.96	1022.8	0	1013.0	2114	3.0
4	12.36	13.5	1126	10.8	2356	83.1	93.8	449	72.0	1633	9.5	7.4	8.5	501	6.4	2356	1015.08	1019.3	2358	1011.9	452	0.7
5	11.40	13.4	1301	9.9	701	85.8	92.7	807	77.2	1424	9.1	7.1	7.8	1128	6.3	37	1018.42	1020.9	904	1012.7	2359	0.2
6	9.81	12.9	2324	6.0	658	87.2	95.1	34	76.9	1343	7.8	6.6	8.1	1817	5.3	658	1013.48	1016.7	1026	1008.7	2359	1.7
7	10.29	12.9	118	6.7	2042	85.1	94.3	1335	78.6	1809	7.9	6.7	7.7	1344	5.3	2040	999.67	1008.8	2	994.7	1556	3.2
8	6.69	8.8	0	4.1	1835	90.2	95.2	1850	82.4	253	5.2	5.6	6.2	1312	4.9	1619	992.27	997.2	0	988.0	2249	10.7
9	6.09	9.1	1235	3.4	2305	80.6	94.8	15	59.7	1313	2.9	4.7	5.6	0	4.1	2304	1002.50	1014.7	2344	989.3	0	0.3
10	8.96	12.7	1339	3.4	37	90.2	96.7	1217	80.1	2342	7.4	6.6	8.3	1950	4.2	17	1007.81	1015.5	300	1001.2	2044	5.2
11	8.53	10.6	1153	6.5	835	83.9	91.4	2048	65.3	1315	5.9	5.8	7.1	2359	4.9	1313	1008.76	1011.2	1119	1004.5	2359	3.7
12	10.24	12.1	1242	7.3	2030	85.7	94.0	1408	63.0	1718	7.9	6.8	7.9	1406	4.6	1857	1003.30	1004.8	0	1001.4	1524	5.7
13	7.97	10.7	1255	6.1	1932	74.2	85.4	2242	61.3	1410	3.6	4.9	5.6	2359	4.7	1410	1009.54	1015.7	1910	1002.7	48	0.1
14	8.77	12.1	1107	4.7	2357	84.2	95.4	948	66.0	1535	6.2	6.1	8.4	1111	4.1	2323	1000.26	1012.2	0	994.7	1043	11.5
15	4.76	8.6	1317	2.4	2324	80.9	95.0	2356	63.3	1318	1.7	4.4	4.9	1229	4.0	330	998.22	1000.9	0	988.7	2359	0
16	2.10	4.6	1323	-3.2	2342	85.4	96.8	323	62.1	1628	-0.2	3.9	5.0	208	2.6	1942	986.76	989.6	1935	982.5	442	11.3
17	-3.02	-0.3	1558	-6.0	723	93.3	97.5	2029	86.4	1634	-3.9	2.9	3.4	1540	2.4	749	990.25	994.1	2259	987.6	534	0
18	0.48	5.1	1308	-4.3	141	86.5	96.8	147	70.0	1423	-1.6	3.4	4.0	1143	2.7	141	999.04	1006.5	2353	993.8	9	0.3
19	0.11	4.8	1323	-2.9	641	88.8	98.4	848	67.2	1417	-1.6	3.4	4.1	1148	3.0	637	1008.72	1014.0	2344	1006.4	5	0.2
20	2.57	6.7	1321	-1.9	2359	80.3	96.9	2338	64.8	1325	-0.6	3.6	4.1	1259	3.1	150	1020.12	1027.9	2355	1013.9	14	0.1
21	-0.75	5.8	1317	-4.4	743	91.1	97.8	429	68.4	1531	-2.1	3.2	4.2	1228	2.6	742	1032.92	1036.1	2235	1027.8	8	0.1
22	-3.51	0.6	1412	-6.3	738	97.5	99.3	1755	95.1	717	-3.8	2.8	3.8	1412	2.2	738	1035.98	1037.2	2327	1035.0	1416	0.1
23	-2.22	2.7	1503	-6.4	528	96.1	98.9	1241	88.2	1555	-2.8	3.1	4.1	1324	2.2	528	1038.09	1039.4	2223	1036.7	6	0.1
24	0.44	5.2	1259	-3.9	2353	91.5	98.1	2313	74.9	1259	-0.8	3.5	4.2	1155	2.7	2353	1039.24	1040.5	922	1038.1	2350	0
25	0.48	5.1	2116	-4.5	117	97.5	99.3	958	91.2	2359	0.1	3.8	5.2	2116	2.6	117	1033.29	1038.2	0	1028.6	1949	0.8
26	4.36	7.2	1429	1.3	345	86.7	94.9	119	75.0	1913	2.3	4.4	5.2	1419	3.8	345	1031.07	1032.6	2231	1029.2	122	0.1
27	3.84	7.4	1136	-0.7	2130	83.4	97.2	2159	65.6	1255	1.2	4.1	4.6	1134	3.4	2130	1031.23	1032.5	2142	1030.3	1326	0
28	4.00	6.3	1505	1.3	22	80.7	95.2	11	66.5	1429	0.9	4.0	4.6	2001	3.3	410	1032.27	1033.4	945	1031.2	2351	0
29	5.87	8.8	1543	2.9	516	88.9	93.2	527	83.4	1731	4.2	5.1	6.3	1605	4.2	500	1026.72	1031.5	0	1022.1	2359	0
30	6.87	9.9	1307	1.4	2130	76.3	91.4	2138	58.5	1238	2.9	4.6	6.1	331	3.7	2117	1025.65	1028.6	2000	1021.5	213	0
31	7.31	12.1	1220	4.2	2316	76.4	88.3	600	54.0	1423	3.3	4.8	6.4	1208	3.9	2156	1025.38	1028.1	3	1023.6	1223	0
Total																						65.7
Mean	5.08	8.48		1.45		86.6	95.44		72.39		2.93	4.87	5.90		3.87		1015.14	1019.51		1010.72		
Max	12.36	13.54		10.81		97.5	99.50		95.10		9.55	7.39	8.45		6.43		1039.24	1040.51		1038.14		
Min	-3.51	-0.30		-6.39		74.2	85.40		53.97		-3.95	2.82	3.40		2.20		986.76	989.64		982.50		

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

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

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

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
R tot = Rainfall from TBR, uncorrected

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 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.

B J Burton. 3 August 2009. Updated 4 May 2014.

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 of 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 of 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.