

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

DECEMBER 2021

Temperature (°C)		Anomaly	Rank in the past	140	years				
Mean maximum	9.6	+1.1	19 th	highest					
Mean minimum	4.8	+2.5	7 th	highest					
Daily mean	7.2	+1.8	12 th	highest					
Highest maximum	14.6	on 29-31	Lowest maximum	5.3	on 19 th				
Highest minimum	11.9	on 31 st	Lowest minimum	-4.1	on 22 nd				
Mean grass minimum	2.6	+3.0	Lowest grass minimum	-8.4	on 22 nd				
Mean earth @30 cm	7.8	+0.9	Earth @100 cm	9.0	-0.3				
Frost duration (hrs)	17.5		Rain duration (hrs)	64.5					
Rainfall total (mm)	61.1	95%	69 th	highest					
Highest daily fall	13.8	on 25 th	Highest rate mm/hr	152	on 7 th				
Number of: Dry days (<0.2mm)	11	Wet days (>0.9mm)	12	days ≥5mm	4				
Sunshine total (hrs)	43.6	Daily mean	1.41	64%	Sunniest day	7.4	on 2 nd		
N° days with: Air frost	4	Ground frost	10	Snow falling	2	Snow lying	0		
Thunder	1	Hail ≥5mm	0	Small hail/ice	2	Fog @09	1	Nil sun	12
Pressure MSL : Mean @09 GMT, mbar	1013.0	-2.6	Highest	1041.6	on 17	Lowest	984.3	on 8	
Relative humidity : Mean (%)	87.8	Lowest	60	on 8	Water vapour (g/kg), mean at 09 and 15 GMT	5.6,	5.8		
Overall mean wind speed (mph)	7.3	Windiest day	14.2	on 30 th	Max gust	45	on 29 th		
Wind direction (days)	N 0	NE 4	E 4	SE 2	S 3	SW 12	W 4	NW 2	
Least windy day (mph)	2.3	on 16 th	Calm; less than 0.5 mph (minutes)	307					

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

Notes:

Very Mild and Very Dull with Rainfall Slightly Below Average

Temperature: The daily mean this December is in the top 10% of ranked values since 1882 and thus falls in the very mild category. This is, however, due mainly to the mean minimum which ranks 7th highest, while the mean maximum ranks only 19th highest in that period. The daily mean of 7.2° has been exceeded only twice this millennium, by 0.1° in 2018, and by an amazing 3.7° in 2015, our mildest December on record. The highest max is 1.5° above the median and is 9th highest in 118 years, while the lowest max is 3.7° above its median and is 5th highest in 109 years. The highest min is 2.6° above the median and is 6th highest in 109 years, while the lowest min is 1.0° above its median. The mean grass min is highest since 2015 and before that, 2006, but the lowest grass min, while 1.8° above average, is lower than in the past 2 Decembers. The mean earth temperature at 30cm depth is 1.1° above average, but at 1m depth is slightly below average. Air frost duration is 70.9 hours below average and is 3rd lowest in the past 41 years. The number of ground frosts is 6 below average. Anomalies for daily max were above +4° on the 12th, 14th, 15th and 29th to 31st, and exceeded -2° on the 2nd, 8th and 19th, with extreme values of +7.4° on the 29th and -2.8° on the 5th. Anomalies for daily min were above +5° from the 13th to 18th and 28th to 31st, and exceeded -5° on the 22nd and 23rd, with extreme values of +10.3° on the 31st and -6.6° on the 22nd. **Rainfall:** The total this December, while only 5% below average, is lowest since 2016, but there have been 10 drier Decembers this millennium. However, there were 4 fewer dry days than average, and the duration of measurable rain was 13% above average. Nonetheless, the period 12th to 23rd was largely dry, having a total of 1.4 mm for the 12 days, and a 5 day dry spell ending on the 18th. In contrast, the 24th and 25th were wet, producing a 2 day total of 23.0 mm. Daily accumulation compared with normal fluctuated around normal until the 11th but became a deficit of 24 mm by the 23rd, this reducing to 4 mm by the 25th, and 3 mm by the 31st. **Sunshine:** This has been a very dull December overall, and the daily mean of 1.41 hours is 36% below average and is lowest since 2010, and before that, 2002. Despite a sunny start to the month, with 154% of average for the first 10 days, the total for the period 11th to 20th was just 14 % of average, with only slight improvement for the 21st to 31st at 28 %. Daily accumulation compared with normal showed a surplus of 10 hours by the 10th, but this reduced to zero by the 17th, and became a deficit of 25 hours by the 27th. Overall there were 25 days with <3 hours and 3 with =>6 hours. **Wind:** The overall mean speed, the mean on the windiest day, and the month's highest gust are all near average. Winds were mainly moderate or fresh to the 13th then light until the 22nd, light or moderate to the 27th then mainly fresh to the 31st. Daily mean directions were between N and E on the 17th to 22nd, 25th and 26th, between E and S on 24th and 27th, between W and N on 1st, 2nd, 5th, 10th and 16th, otherwise between S and W.

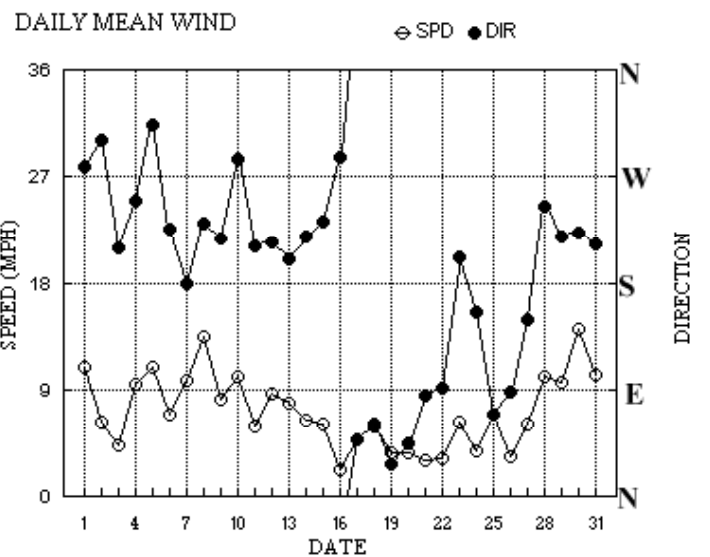
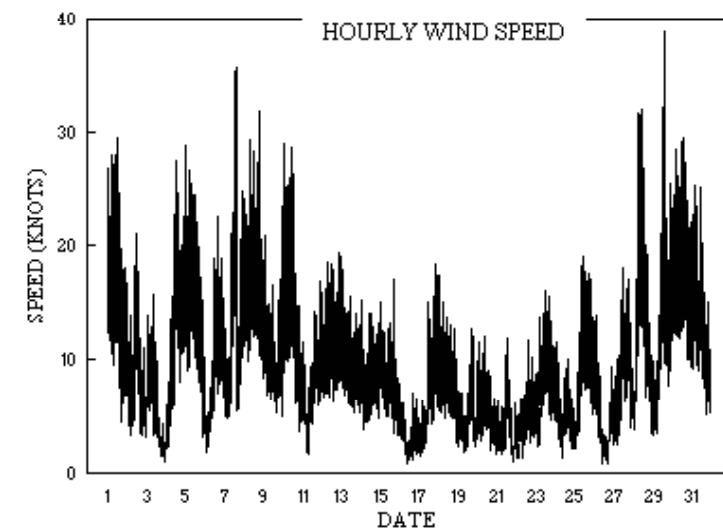
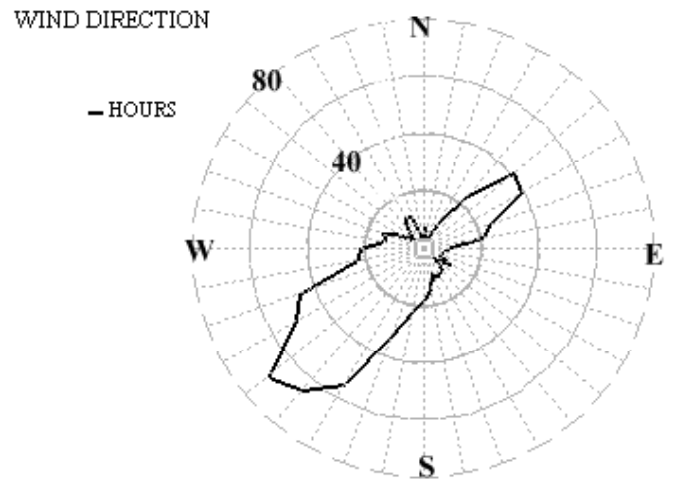
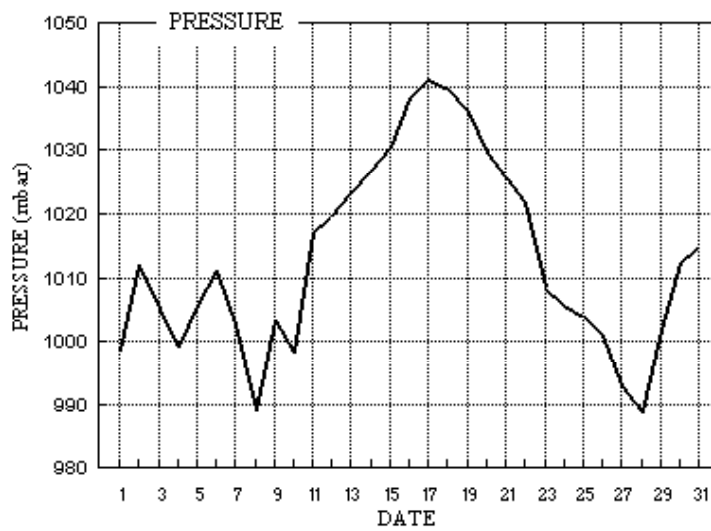
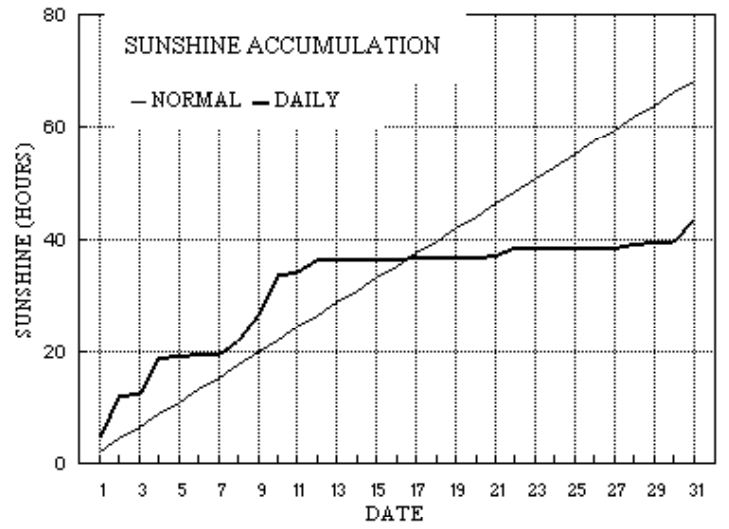
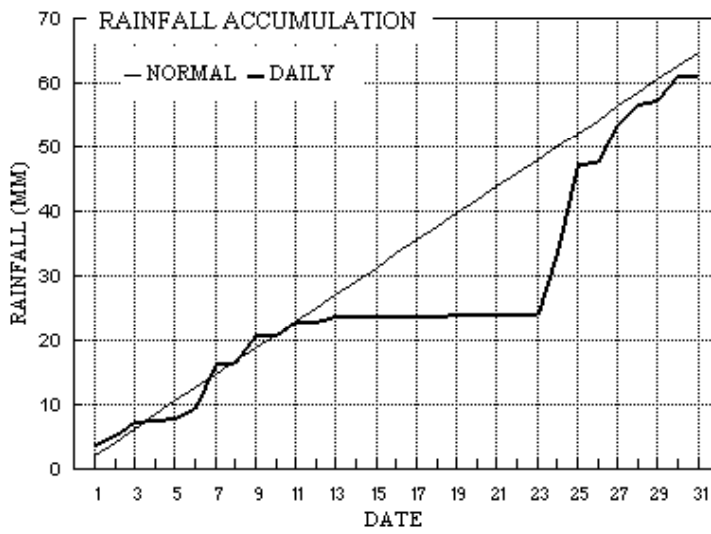
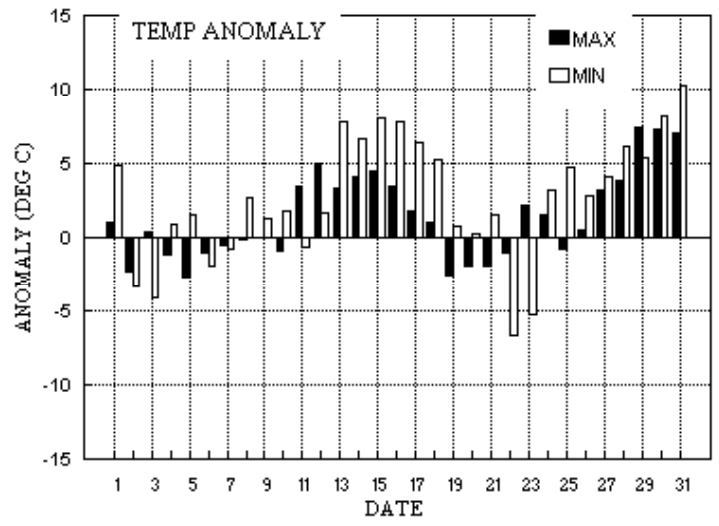
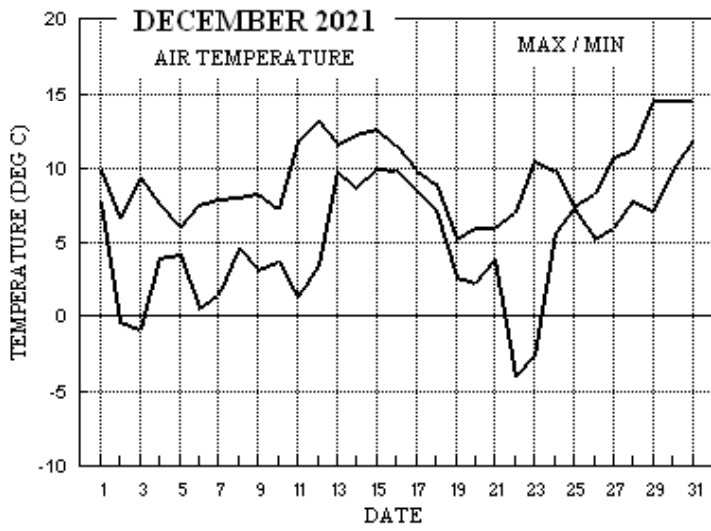
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
-0.7°	+0.3°	101%	154%	+2.2°	+4.4°	15%	14%	+2.7°	+3.1°	162%	28%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham Climatological Graphs for December 2021



Month: DECEMBER 2021

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf SI	Th Ha	Ic Fg	Vec ddd	mean ff	sp	Max gust ddd	gg	HHhh	High hr ddd	ff	Rain HH	hrs
1	9.9	7.7	3.9	6.1	7.5	9.5	4.9	0.0	998.6	0 0 0 0	0 0 0 0	0 0 1 0	0 0 1 0	278	7.8	9.5	270	30	1125	227	13	00	1.7
2	6.7	-0.3	1.4	-3.7	7.4	9.4	7.4	1.5	1011.9	1 1 1 0	0 0 0 0	0 0 0 0	0 0 0 0	300	4.3	5.4	321	21	1157	330	10	12	3.6
3	9.3	-0.8	2.0	-6.0	6.8	9.4	0.1	0.0	1005.0	1 1 1 0	0 0 0 0	0 0 0 0	0 0 0 0	209	3.1	3.8	200	16	0739	204	7	02	1.7
4	7.6	4.0	0.3	-0.2	7.3	9.2	6.7	0.0	999.2	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	250	8.0	8.2	253	28	1246	256	13	12	1.5
5	6.0	4.3	0.2	0.5	6.9	9.1	0.1	0.0	1005.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	313	8.9	9.5	307	29	0133	258	13	00	1.1
6	7.6	0.5	1.6	-2.2	6.8	9.0	0.5	0.0	1011.1	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	226	5.0	6.0	267	23	1639	204	10	13	1.6
7	7.9	1.5	6.9	-2.7	6.5	8.9	0.0	0.0	1002.6	0 1 0 0	0 0 0 0	0 0 1 0	0 0 1 0	180	7.4	8.5	155	36	1404	164	15	14	4.9
8	8.1	4.6	0.2	1.5	6.4	8.8	2.3	0.0	989.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	231	11.3	11.7	263	32	1944	251	15	19	0.6
9	8.3	3.2	4.4	-1.1	6.3	8.7	4.6	0.0	1003.4	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	218	6.1	7.2	234	21	0117	244	10	01	5.3
10	7.3	3.7	0.0	1.2	6.5	8.5	7.3	0.0	998.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	285	8.6	8.8	297	29	0220	293	13	11	0.0
11	11.8	1.3	1.9	-3.8	6.2	8.5	0.2	0.0	1016.9	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	211	4.9	5.2	234	17	2256	234	8	22	2.0
12	13.2	3.5	0.1	7.4	6.7	8.4	2.3	0.0	1019.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	214	7.5	7.6	205	20	2211	204	9	21	0.3
13	11.6	9.8	0.8	6.9	7.6	8.4	0.2	0.0	1023.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	200	6.8	6.8	206	19	0012	203	10	00	1.5
14	12.3	8.7	tr	3.9	8.1	8.5	0.0	0.0	1026.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	219	5.6	5.6	232	15	0220	224	8	02	0.0
15	12.7	10.0	0.0	6.2	8.3	8.7	0.0	0.0	1030.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	232	5.3	5.4	271	17	1640	231	8	01	0.0
16	11.5	9.8	0.0	8.5	8.7	8.8	0.0	0.0	1038.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	286	0.7	2.0	230	8	0113	233	4	01	0.0
17	9.8	8.4	tr	6.9	8.8	9.0	0.3	0.0	1041.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	48	4.1	4.2	59	18	2103	55	7	21	0.0
18	9.0	7.2	0.1	7.4	8.9	9.1	0.0	0.0	1039.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	60	5.3	5.4	63	17	0021	63	7	01	0.2
19	5.3	2.7	0.2	4.0	9.0	9.2	0.0	0.0	1036.0	0 0 0 0	0 0 0 0	0 0 0 1	28	3.1	3.3	53	13	1740	43	6	17	2.0	
20	6.0	2.3	tr	3.9	8.8	9.3	0.0	0.0	1029.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	46	3.2	3.3	64	12	0800	53	5	08	0.0
21	6.0	3.8	0.0	2.0	8.2	9.3	0.3	5.7	1025.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	86	2.2	2.7	106	12	1208	117	6	12	0.0
22	7.1	-4.1	tr	-8.4	7.6	9.3	1.2	10.3	1021.8	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	92	2.2	2.9	133	12	1530	149	5	16	0.1
23	10.5	-2.6	0.2	-0.7	7.0	9.1	0.0	0.0	1008.5	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	202	5.0	5.5	206	16	1258	209	8	13	0.4
24	9.8	5.7	9.2	-1.1	7.4	8.9	0.1	0.0	1005.6	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	156	1.7	3.3	234	12	0315	232	5	03	10.1
25	7.4	7.3	13.8	7.1	7.9	8.8	0.0	0.0	1003.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	70	5.9	6.0	66	19	1103	65	8	09	12.7
26	8.3	5.2	0.4	5.9	8.1	8.8	0.0	0.0	1000.9	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	88	1.6	2.9	97	14	0431	83	6	02	0.7
27	10.7	6.0	5.9	2.2	9.5	8.8	0.0	0.0	992.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	149	4.5	5.4	130	18	1211	136	9	12	7.2
28	11.2	7.8	3.3	7.0	8.7	8.9	0.6	0.0	988.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	244	8.3	8.8	262	32	1134	245	15	09	2.2
29	14.6	7.2	0.5	4.3	8.7	9.0	0.5	0.0	1001.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	219	7.4	8.3	262	39	1426	253	17	14	0.5
30	14.6	9.8	3.7	7.4	9.0	9.0	0.0	0.0	1012.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	222	12.2	12.3	223	30	1515	223	15	18	1.7
31	14.6	11.9	0.1	11.4	9.7	9.2	4.0	0.0	1014.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	212	8.8	9.0	208	25	0520	206	12	04	0.9
Total			61.1				43.6	17.5															64.5
Mean	9.6	4.8		2.6	7.8	9.0	1.41	0.6	1013.0					227	3.1	6.3							
Anom	+1.1	+2.5	95%	+3.0	+0.9	-0.3	64%		-2.6														
Daily mean		7.2																					
Anom		+1.8																					

Number of days with:

Air frost = 4 Ground frost = 10 Nil sun = 12
 Snow falling = 2 Snow lying = 0 Thunder = 1
 Hail=>5mm = 0 Hail<5mm or ice = 2 Fog at 09GMT = 1

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT
 Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).
 Grass min = Lowest overnight temperature at grass tip level.
 Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.
 pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.
 Af = Air frost. Gf = Ground frost. Sf = Snow falling. Sl = Snow lying at 09 GMT.
 Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.
 Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.
 Sp = 24 hour mean wind speed in knots.
 Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.
 High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.
 30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.
 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 DECEMBER 2021

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	hshs	NChs	Date	Remarks
1	86	6	26	11	21	7.8	4.9	82	5.5	998.6	2	017	21	6	2	3	5	4	2	8	81715	83465	85270	1	2Sc25 2Sc40	
2	84	1	29	06	12	2.0	-0.7	82	3.6	1011.9	3	014	02	7	1	1	5	7	0	0	81650			2	Hoar slt	
3	30	8	23	04	14	6.7	6.3	97	5.9	1005.0	6	018	58	6	5	8	7	2	/	/	86703	88704		3		
4	81	1	24	06	12	4.2	2.9	91	4.7	999.2	3	020	01	6	1	1	0	9	7	8	81364			4	1Cs68 Cld edge SE	
5	83	7	33	12	25	5.2	1.7	78	4.3	1005.6	2	028	02	2	2	7	5	5	/	/	87620			5		
6	61	7	17	05	08	3.4	2.1	91	4.4	1011.1	8	028	03	2	2	1	5	7	7	/	81650	87358		6		
7	65	8	15	09	17	4.7	2.1	83	4.4	1002.6	7	046	21	6	2	3	8	5	7	/	81822	87357	88462	7	2Sc35 2Sc56 Cu med	
8	62	7	22	13	29	5.9	1.2	72	4.2	989.1	2	016	16	1	1	3	5	4	2	2	81618	83635	87070	8	3As65 jpNW&N Rainbow	
9	75	7	24	07	12	3.7	0.9	82	4.1	1003.4	1	015	03	1	1	0	0	9	0	6	87268			9	COTRA	
10	83	1	28	10	20	4.4	0.9	78	4.1	998.2	2	035	02	0	0	1	0	9	3	8	81362			10	1Cs75 Cs edge E	
11	70	7	21	04	08	3.4	1.8	89	4.3	1016.9	2	016	02	2	2	7	0	9	7	/	87359			11	/Ac65	
12	64	6	20	08	13	11.2	10.3	94	7.7	1019.8	1	014	01	1	1	4	5	5	0	1	84628	83080		12	COTRA	
13	50	7	20	07	14	10.7	9.3	91	7.2	1023.4	3	017	50	5	2	7	5	4	/	1	86710	84618		13	/Ci80 COTRA	
14	62	7	21	06	11	10.6	9.5	93	7.3	1026.9	2	009	01	2	2	7	5	5	/	/	87627			14		
15	70	7	22	05	09	11.6	9.2	85	7.1	1030.4	2	012	02	2	2	7	5	5	/	/	81622	87629		15		
16	75	8	26	01	03	10.5	6.5	76	5.8	1038.3	2	017	02	2	2	8	5	5	/	/	88629			16		
17	72	7	04	03	06	8.6	5.5	81	5.5	1041.1	2	006	02	2	2	7	5	5	/	/	87626			17		
18	50	8	07	05	13	7.7	6.8	94	6.0	1039.7	2	005	20	5	2	8	6	2	/	/	88704			18		
19	01	9	31	02	04	2.7	2.6	99	4.4	1036.0	6	005	51	5	4	9	/	/	/	/				19	VV 120m	
20	59	8	06	05	12	5.3	4.1	92	5.0	1029.5	4	000	20	5	2	8	5	3	/	/	82708	88612		20		
21	65	7	06	02	06	4.0	2.7	91	4.5	1025.8	1	002	02	2	2	7	8	5	/	/	81820	87628		21	Cu hum	
22	50	7	02	01	03	-2.7	-3.0	98	3.0	1021.8	5	000	10	2	2	4	0	9	7	8	84369	87273		22	COTRA Hoar thk Gnd sfc frzn	
23	15	8	19	05	11	7.1	6.5	96	6.0	1008.5	5	007	10	5	2	8	6	2	/	/	88703			23		
24	40	7	17	02	03	7.6	7.5	99	6.4	1005.6	8	002	20	5	2	7	5	2	/	/	85705	87612		24	/Sc25	
25	35	8	06	07	13	7.4	7.3	99	6.4	1003.8	2	010	20	5	2	8	6	2	/	/	86703	88704		25		
26	22	8	04	02	06	6.0	5.9	99	5.8	1000.9	3	005	21	6	9	8	7	1	/	/	88702			26	T 0639	
27	25	8	11	06	10	7.8	7.7	99	6.6	992.8	6	014	63	6	2	7	7	2	/	/	87704	88530		27		
28	65	7	24	14	25	8.4	5.9	84	5.9	988.7	3	009	25	8	2	7	3	4	6	/	81915	85820		28	2Sc35 2Ac65 Cb&jp S	
29	56	8	19	07	12	9.7	9.2	97	7.3	1001.8	6	013	62	6	2	8	7	2	/	/	88703			29		
30	77	7	23	13	22	13.9	11.9	88	8.7	1012.4	3	012	02	2	2	7	5	4	/	/	87610			30	/Sc50	
31	80	7	22	09	18	12.1	11.2	94	8.2	1014.9	2	024	21	6	2	7	5	3	/	/	86708	87615		31		

Mean vis = 17.6 km

Mean cloud = 6.7 84%

Mean wind speed = 6.4 kn

Mean gust = 13 kn

Mean TT = 6.8 °C

Mean TdTd = 5.2 °C

Mean RH = 89.5 %

Mean r = 5.6 g/kg

Mean PPP = 1013.0 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 DECEMBER 2021

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChshs	Date	Remarks
1	60	3	27	07	20	8.5	3.6	71	5.0	998.7	0	001	15	8	1	3	9	4	0	3	82918	82635	1	1Ci68 Cb&jp N Rainbow vv60k ex p	
2	75	1	33	07	17	3.8	-1.8	67	3.3	1014.3	3	017	03	0	0	1	0	9	5	1	81370		2	1Ci73	
3	75	8	23	02	04	8.6	7.8	95	6.6	1002.5	7	018	03	2	2	7	5	6	2	/	87635	88464	3		
4	82	1	26	12	25	7.0	0.4	63	4.0	998.7	7	004	01	1	1	1	1	6	0	2	81835		4	1Ci68	
5	58	8	33	10	19	5.8	3.8	87	5.0	1010.2	2	024	61	6	2	8	5	4	/	/	86612	88618	5		
6	84	6	25	07	17	7.5	6.0	90	5.8	1004.7	6	022	21	6	1	5	3	5	6	/	81915	83820	6	2Sc35 1Ac62 jpSW&NW	
7	57	8	20	13	36	7.2	6.0	92	5.9	988.4	5	063	63	8	6	5	5	6	2	/	81709	85635	88540	7	CF 1450 Rrate 152, ice pel
8	80	6	25	11	24	7.1	0.5	63	4.0	993.7	2	023	01	2	2	1	8	5	4	1	81828	86072	8	1Sc33 1Ac65 COTRA Cu hum	
9	70	7	18	07	12	7.3	2.2	70	4.5	1000.1	8	030	03	1	1	3	5	7	3	1	83656	86075	9	2Ac60 COTRA	
10	86	3	29	09	21	6.8	0.7	65	4.0	1003.2	2	024	03	0	0	3	5	6	0	1	83630		10	1Ci72	
11	63	8	19	06	11	8.5	5.1	79	5.4	1016.5	6	007	60	6	2	8	5	4	/	/	85615	88620	11		
12	58	7	21	06	18	12.0	10.6	91	7.8	1020.6	2	002	21	6	5	7	5	4	/	/	85710	87625	12	jp SW-NW	
13	65	7	19	05	11	10.1	9.2	94	7.1	1023.5	5	005	21	6	5	7	5	3	/	/	83706	86612	13	/Sc35	
14	86	7	24	07	14	12.2	9.6	84	7.3	1026.9	5	004	02	5	2	7	8	4	/	/	83815	87622	14	Cu hum	
15	82	8	24	05	10	12.4	7.9	74	6.5	1031.4	3	005	02	2	2	8	5	5	/	/	82626	88629	15		
16	78	8	01	01	04	10.9	5.9	71	5.6	1039.1	4	000	02	2	2	8	5	5	/	/	88628		16		
17	58	8	05	05	13	7.3	5.8	90	5.6	1040.5	6	006	05	2	2	8	6	3	/	/	88707		17		
18	58	8	05	05	12	8.3	6.3	87	5.8	1038.7	6	007	05	2	2	8	6	3	/	/	88709		18		
19	07	8	05	05	10	4.7	4.6	99	5.1	1033.1	6	017	46	4	2	8	6	1	/	/	88702		19		
20	65	7	05	03	09	5.8	2.4	79	4.4	1028.4	7	009	01	2	2	7	5	5	/	/	81620	87625	20		
21	63	7	12	05	09	5.3	-0.5	66	3.6	1024.6	6	009	02	2	2	7	5	5	/	1	87627		21	/Ci80 COTRA	
22	60	7	13	04	08	4.1	1.6	84	4.2	1016.6	6	024	05	2	2	6	0	9	7	8	83363	86468	87272	22	COTRA
23	45	8	20	09	14	9.8	8.7	95	7.0	1005.6	6	013	50	6	5	8	7	3	/	/	87706	88709	23		
24	50	8	12	04	07	9.0	8.2	95	6.8	1002.8	6	015	60	6	2	7	5	3	2	/	83707	85613	87650	24	/As62
25	56	8	08	07	16	6.1	5.8	98	5.8	1003.7	6	004	20	5	6	8	7	2	/	/	87703	88704	25		
26	06	8	31	01	03	8.2	8.1	99	6.8	1000.0	7	005	20	5	4	8	6	1	/	/	87702	88708	26		
27	56	5	20	07	12	10.7	9.9	95	7.8	989.2	6	011	25	8	6	4	8	4	0	1	82813	83645	27	2Ci72 Cu med	
28	86	6	26	11	22	10.6	6.4	75	6.0	995.2	2	047	01	2	2	6	5	5	/	/	83626	85645	28		
29	63	8	25	15	39	13.5	9.4	76	7.4	1003.9	2	030	01	5	2	1	5	5	0	7	81625	88280	29		
30	72	7	22	13	25	13.9	12.3	90	8.8	1013.9	3	006	21	6	5	7	5	4	/	/	87611		30		
31	75	6	23	08	17	13.8	11.1	84	8.2	1017.6	3	009	02	2	2	4	8	4	0	1	81815	84630	86080	31	Cu fra

Mean vis = 20.5 km
 Mean cloud = 6.6 83%
 Mean wind speed = 7.0 kn
 Mean gust = 15 kn
 Mean TT = 8.6 °C
 Mean TdTd = 5.7 °C
 Mean RH = 82.8 %
 Mean r = 5.8 g/kg
 Mean PPP = 1012.5 mbar

See appendix 2 below for full code details

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

Wokingham Sunshine Hourly analysis 2021	Hour	01-Dec	02-Dec	03-Dec	04-Dec	05-Dec	06-Dec	07-Dec	08-Dec	09-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec
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
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	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	0.84	0.00	0.46	0.00	0.00	0.00	0.00	0.37	0.00	0.61	0.00	0.58	0.00	0.00	0.00	0.00
9	0.72	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.37	0.00	0.00	0.00	0.00
10	1.00	1.00	0.02	1.00	0.00	0.00	0.00	0.21	0.96	1.00	1.00	0.20	0.89	0.20	0.00	0.00	0.00
11	1.00	1.00	0.01	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.15	0.01	0.00	0.00	0.00
12	0.33	1.00	0.01	0.89	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
13	0.19	1.00	0.00	0.70	0.05	0.00	0.00	0.28	1.00	1.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00
14	1.00	1.00	0.00	1.00	0.00	0.32	0.00	0.97	0.68	1.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00
15	0.68	0.56	0.00	0.62	0.00	0.19	0.00	0.47	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	4.92	7.41	0.03	6.68	0.05	0.51	0.00	2.30	4.64	7.33	0.20	2.32	0.24	0.00	0.00	0.00	0.00

	Hour	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec	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	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	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
9	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
10	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.19
12	0.26	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.25	0.00	0.00	1.00	0.19
13	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.96	0.18
14	0.00	0.00	0.00	0.00	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.11	0.00	1.00	0.24
15	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.36	0.00	0.24	0.14
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.26	0.00	0.00	0.00	0.32	1.15	0.00	0.03	0.00	0.00	0.00	0.00	0.61	0.45	0.00	4.04	43.48

DECEMBER 2021	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	7.59	10.7	4	1.7	2353	80.6	92.7	39	63.4	1218	4.4	5.3	7.3	49	3.4	2357	1000.14	1009.0	2336	995.4	318	3.9
2	1.87	4.9	1236	-0.8	1848	77.0	88.8	1934	62.1	1058	-1.8	3.3	3.7	843	3.1	1846	1012.59	1015.9	1826	1008.9	4	0
3	5.68	9.3	1252	1.2	5	94.1	99.0	2357	76.0	112	4.8	5.5	6.8	1056	3.3	36	1004.53	1013.5	0	998.3	2358	1.5
4	5.61	7.6	1242	4.0	837	81.9	99.3	328	62.4	1501	2.6	4.7	5.8	23	3.8	1551	998.65	1000.1	2339	996.5	435	1.7
5	5.07	6.0	1343	2.5	2357	84.0	94.1	2347	74.8	1	2.6	4.6	5.1	1555	4.1	735	1007.84	1016.4	2344	999.0	40	0.6
6	3.66	7.6	1453	0.5	353	89.5	98.1	501	71.7	1640	2.1	4.4	5.9	1455	3.7	122	1010.13	1016.3	12	1004.2	1340	1.5
7	4.76	7.9	1301	1.5	227	86.5	94.5	1757	74.8	2315	2.7	4.7	6.2	1452	3.7	159	996.37	1010.2	112	984.4	2158	6.1
8	6.07	8.1	1322	4.8	709	71.8	84.9	2000	60.5	1408	1.3	4.3	4.7	2000	3.8	1658	991.68	999.4	2338	984.3	48	0.3
9	6.07	8.3	2220	3.2	634	80.6	96.7	2329	67.7	1236	2.9	4.8	6.6	2220	3.9	554	998.96	1003.7	945	989.6	2353	2.9
10	5.38	8.0	10	1.5	2324	77.6	92.8	0	63.4	1312	1.7	4.4	6.3	0	3.7	2223	1000.85	1012.2	2354	989.6	0	1
11	6.01	10.9	2209	1.3	216	89.6	97.6	2102	76.2	1344	4.4	5.3	7.8	2209	3.7	216	1015.82	1017.6	1033	1012.2	0	1.5
12	11.67	13.2	1304	10.8	7	88.9	95.8	341	78.4	2111	9.9	7.5	8.1	1148	6.6	2111	1019.78	1021.8	2333	1016.6	32	0.4
13	10.19	11.6	1131	8.9	2338	90.6	94.9	2345	80.8	1	8.7	6.9	7.4	1253	6.6	2323	1023.32	1025.4	2353	1021.0	140	0.8
14	10.72	12.3	1428	8.7	445	90.1	96.0	654	81.7	1514	9.1	7.1	7.4	1907	6.4	445	1026.82	1028.2	2319	1024.9	59	0
15	11.70	12.7	1322	10.7	4	80.6	91.5	0	70.1	1554	8.5	6.7	7.2	1143	6.2	1954	1031.10	1034.9	2357	1027.9	19	0
16	10.35	11.5	1158	9.0	2338	76.5	82.7	1858	65.9	1234	6.4	5.8	6.4	1056	5.4	1248	1038.40	1041.0	2308	1034.8	1	0
17	8.43	9.8	1112	7.2	1433	84.4	93.2	1846	74.1	52	5.9	5.6	6.0	2024	5.3	51	1040.48	1041.6	1008	1039.3	2338	0
18	7.79	9.0	1234	6.9	2358	92.7	96.8	2357	85.9	1313	6.7	5.9	6.1	1014	5.7	1525	1039.09	1039.9	1012	1038.4	2359	0
19	4.23	7.0	7	2.3	928	98.6	99.4	1004	96.8	6	4.0	5.0	5.8	6	4.3	929	1034.73	1038.5	0	1031.1	2356	0.2
20	5.16	6.0	1124	3.9	2343	88.4	98.6	11	77.1	1439	3.4	4.8	5.3	40	4.1	2318	1028.92	1031.3	0	1027.1	2247	0.2
21	2.85	6.0	1259	-2.7	2322	84.2	98.0	2340	62.9	1310	0.3	3.9	4.8	1101	3.0	2322	1025.32	1027.2	1	1023.8	2349	0
22	0.45	4.4	2358	-4.1	614	94.0	98.6	712	83.8	1451	-0.4	3.7	4.7	2342	2.7	550	1018.78	1024.1	0	1012.6	2350	0.1
23	7.55	10.5	1735	4.4	0	94.3	97.1	2356	89.2	26	6.7	6.2	7.6	1735	4.7	5	1008.09	1012.8	0	1005.5	1506	0.2
24	8.08	9.8	1300	5.7	31	97.4	98.9	2357	91.2	1336	7.7	6.6	7.1	1252	5.5	31	1004.06	1007.4	0	1001.2	2250	6.5
25	6.60	7.9	135	5.2	2038	98.4	99.2	641	97.3	1647	6.4	6.0	6.6	135	5.4	2101	1003.17	1004.6	1047	1001.3	18	3.8
26	6.68	8.3	1519	5.6	0	98.9	99.7	1928	98.1	401	6.5	6.1	6.8	1520	5.6	0	1000.36	1002.1	2	998.6	2359	9
27	8.70	10.7	1442	6.5	216	97.3	99.7	730	91.7	1717	8.3	6.9	7.8	1430	6.0	216	991.38	998.6	2	986.5	2330	3.1
28	9.36	11.2	1235	7.2	2351	85.7	97.8	118	71.0	1900	7.0	6.4	7.5	235	5.5	1914	993.54	1005.0	2359	986.6	0	2.1
29	10.99	14.6	1346	7.3	2	90.4	97.9	1018	75.9	1505	9.4	7.5	9.4	1230	5.8	1	1004.52	1009.4	2350	1000.6	1036	3
30	13.67	14.6	1201	12.8	2003	88.1	91.8	223	82.9	2359	11.7	8.5	9.0	1158	7.8	2349	1012.79	1015.5	2157	1009.1	54	0.1
31	12.98	14.6	1224	11.9	800	88.1	96.3	2334	82.2	23	11.0	8.1	8.8	1217	7.7	159	1016.84	1021.4	2156	1012.1	557	3
Total																						53.5
Mean	7.29	9.51		4.84		87.8	95.56		77.09		5.32	5.69	6.65		4.86		1012.87	1017.58		1008.44		
Max	13.67	14.63		12.83		98.9	99.70		98.10		11.74	8.54	9.41		7.83		1040.48	1041.57		1039.34		
Min	0.45	4.39		-4.11		71.8	82.70		60.48		-1.81	3.32	3.71		2.70		991.38	998.63		984.30		

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
 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.

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.