

# 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 2024

Temperature (°C)	Anomaly	Rank in the past	143	years
Mean maximum	9.5	+1.0	25th highest	
Mean minimum	4.8	+2.5	8th highest	
Daily mean	7.2	+1.8	13th highest	
Highest maximum	13.8	on 18th	Lowest maximum	6.1 on 13&27
Highest minimum	11.3	on 1st	Lowest minimum	-0.5 on 4th
Mean grass minimum	3.3	+3.7	Lowest grass minimum	-4.1 on 4th
Mean earth @30 cm	8.6	+1.7	Earth @100 cm	9.8 +0.5
Frost duration (hrs)	0.8		Rain duration (hrs)	53.2
Rainfall total (mm)	35.5	55%	32nd lowest	
Highest daily fall	5.5	on 5th	Highest rate mm/hr	30 on 5th
Number of: Dry days (<0.2mm)	15	Wet days (>0.9mm)	10	days ≥5mm 2
Sunshine total (hrs) 31.1	Daily mean 1.00	46%	Sunniest day 4.9	on 2nd
N° days with: Air frost 1	Ground frost 7	Snow falling 0	Snow lying 0	
Thunder 0	Hail ≥5mm 0	Small hail/ice 0	Fog @09 1	Nil sun 17
Pressure MSL: Mean @09 GMT, mbar 1022.6	+7.0	Highest 1036.1	on 26th	Lowest 990.0 on 7th
Relative humidity: Mean (%) 87.6	Lowest 57	on 22nd	Water vapour (g/kg), mean at 09 and 15 GMT	5.6, 5.7
Overall mean wind speed (mph) 8.4	Windiest day 20.5	on 7th	Max gust 60	on 7th
Wind direction (days) N 3 NE 2 E 0 SE 1 S 3 SW 11 W 10 NW 1				
Least windy day (mph) 1.8	on 27th	Calm; less than 0.5 mph (minutes)	n/a	

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

Notes:

#### Mild with Both Rainfall and Sunshine Below Average

**Temperature:** This has been a mild December, the mean being in the top 10% of ranked values since 1882. It is, however, 3.7° below the record set in 2015, but is 2.0° above the long-term median. Due to the predominantly cloudy nature of the month, the mean daily temperature range was 1.3° below average and equal lowest with 2021 and 2015 since 2002. The highest max is 0.7° above the median and the lowest max is 4.5° above its median and 3rd highest in 112 years. The highest min is 2.0° above the median whilst the lowest min is 4.6° above its median and is 2nd highest in 121 years. The mean grass min is 3.7° above average and highest since 2015, while the lowest value is 6.0° above average. Earth temperature at both 30cm and 1m depth are highest since 2015. The number of days with air frost is 9 fewer than average and least since 2015, the only December to have none in the past 69 years. The number of days with ground frost is also 9 fewer than average. Air frost duration is 2nd lowest after 2015 in the past 44 years. Anomalies for daily max were over +5° on the 17th and 18th, and exceeded -2° on the 13th, with extreme values of +5.9° on the 18th and -2.2° on the 13th. Anomalies for daily min were above +5° on the 1st, 16th, 18th and 25th, and exceeded -1° on the 4th, with extreme values of +8.4° on the 1st and -3.6° on the 4th. **Rainfall:** The total this December is only about half the average and is driest since 2016 and 5th driest in this millennium. The highest daily fall of 5.5 mm is well below average, and 8th lowest in 121 years. While the number of dry days is exactly average rainfall duration was 91 % of average compared with 55% for the rainfall total, indicating that much of the precipitation was slight. For example, in the final 23 days of the month 12.2 mm of rain fell during a total of 24.7 hours, a mean rate of 0.49 mm/hr. There was no thunder, hail or snow this month. Daily accumulation compared with normal was 5 mm in surplus on the 8th, becoming 7 mm in deficit by the 16th and 29 mm in deficit by the 31st. **Sunshine:** The total this month puts it in the very dull category. The daily mean of 1.00 hours is equal lowest with 2023 since 2010, and before that 1989. The number of days with nil sun is 6 above average, most since 2010 and equal 2nd highest with 2000 in 46 years. Coincidentally, this month's total is only 0.1 hours more than in December 2023. The highest daily total of 4.9 hours is 1.7 hours below average and 2nd lowest after 2023 in 46 years. Daily accumulation compared with normal was normal on the 6th, then increasing deficit reached 37 hours by the 31st. There were 2 notable dull spells, the 7 days to the 13th had a total of only 0.2 hours and the 8 days to the 31st had only 0.1 hours. Overall there were 25 days with <3 hours and none with =>6 hours. **Wind:** The mean speed this month is 1.0 mph above average. The 7th was the windiest day with a mean speed of 20.5 mph making it the windiest December day in the past 38 years. The highest gust of 60 mph is highest for the month since 1993. Moderate winds on the 1st became fresh on the 5th, increasing very strong on the 7th, decreasing to moderate by the 10th, then light or moderate until 17th, then fresh increasing strong for the 21st and 22nd, falling light or very light for the 24th to 29th but increasing strong on the 31st. Daily mean directions were mainly between S and W, apart from between N and E from 9th to 12th, between E and S on 13th and 26th, and between W and N on 3rd, 8th, 23rd and 28th.

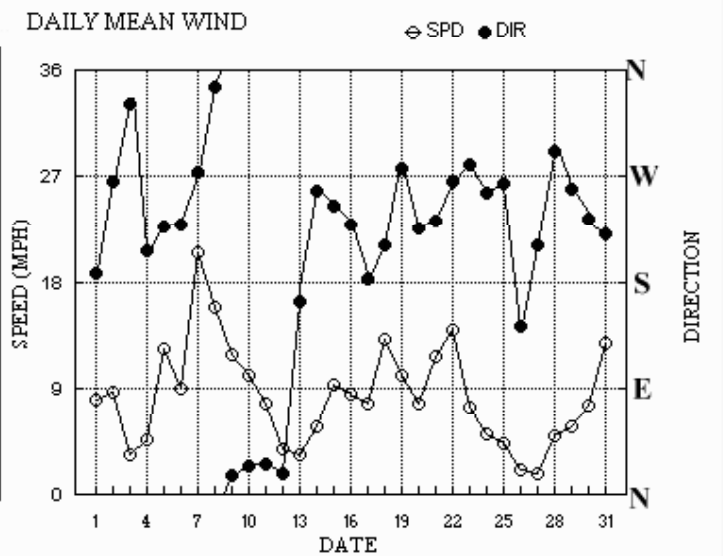
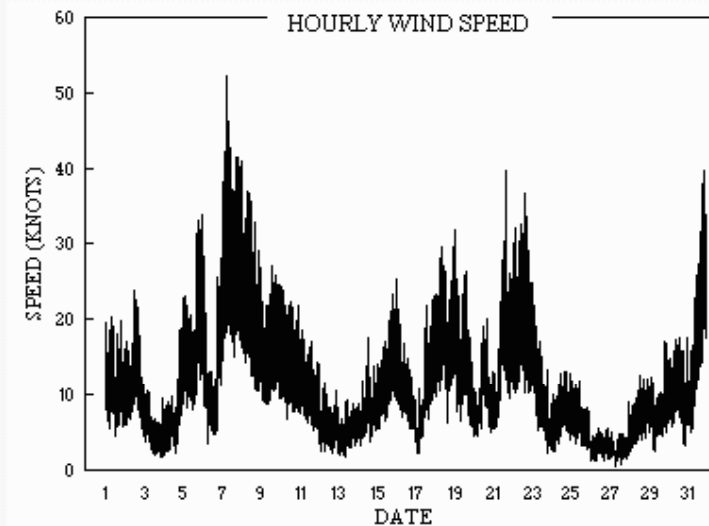
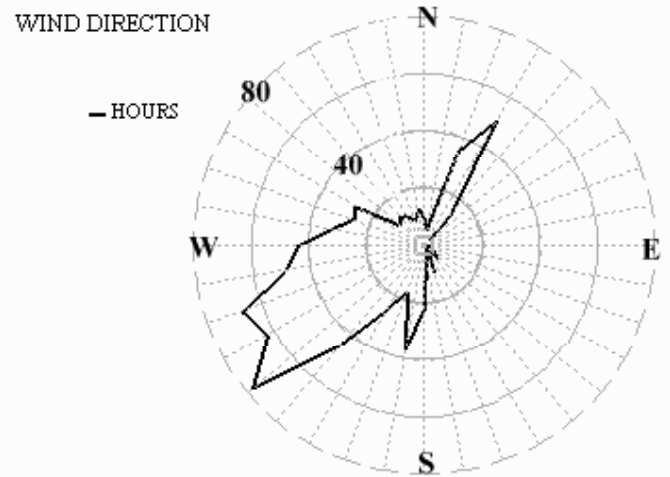
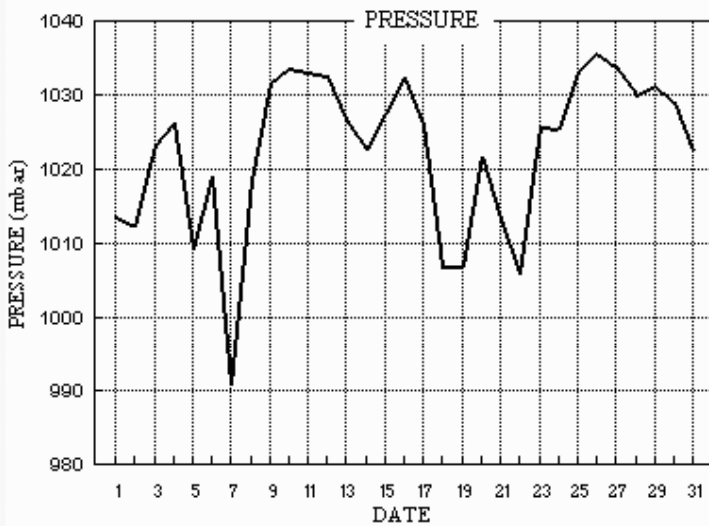
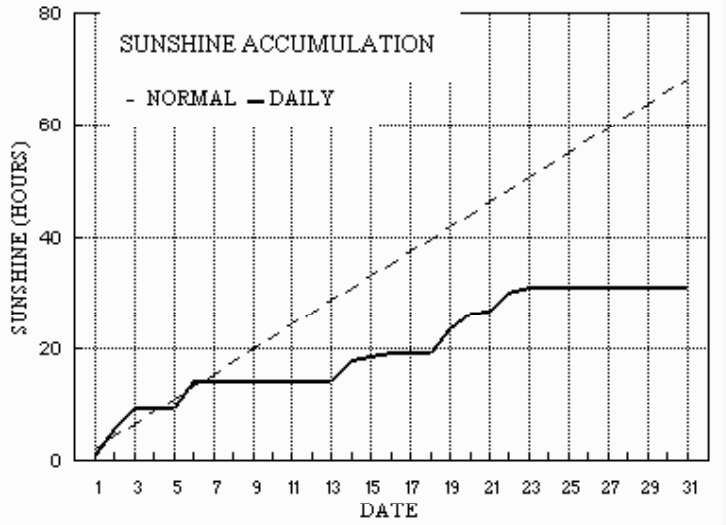
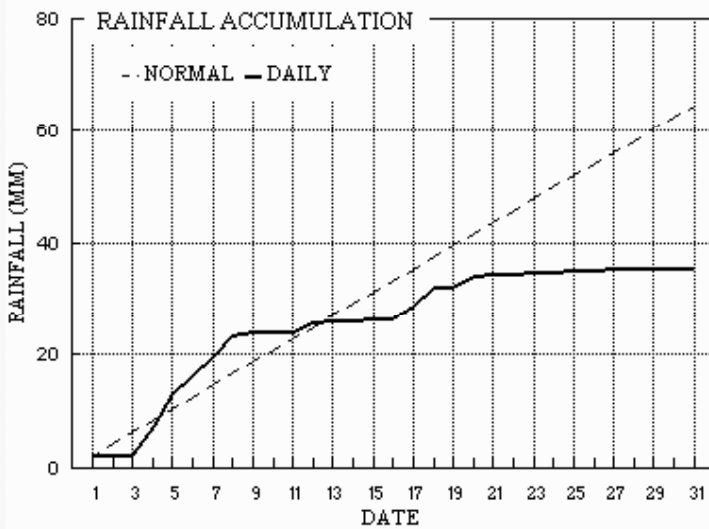
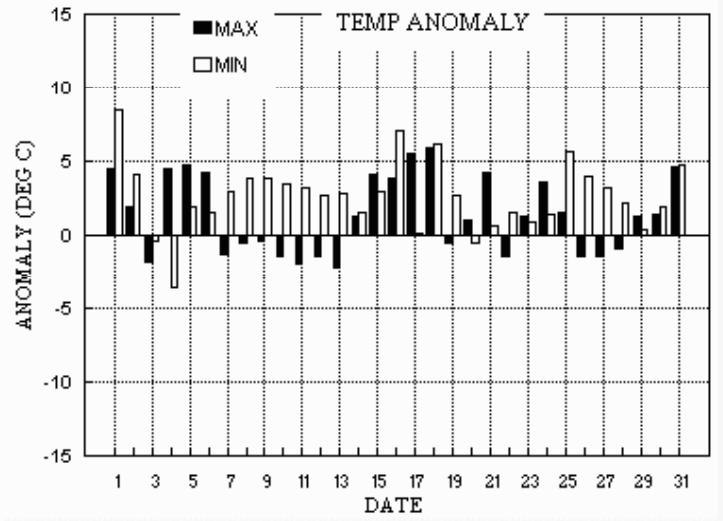
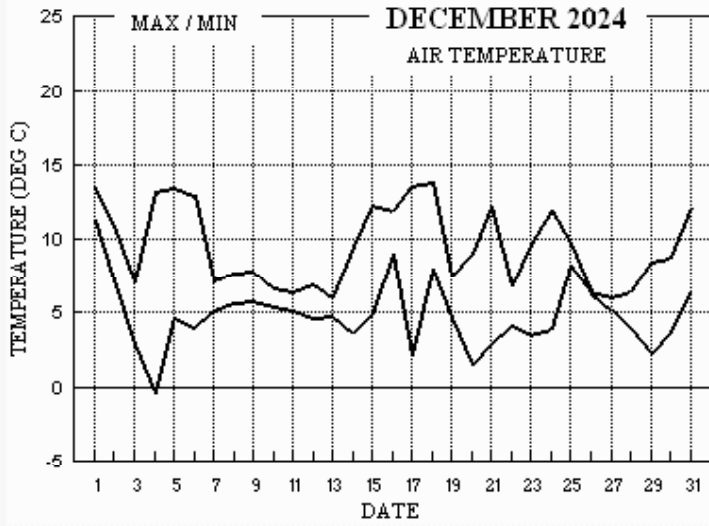
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 <sup>st</sup> to the 10 <sup>th</sup>				From the 11 <sup>th</sup> to the 20 <sup>th</sup>				From the 21 <sup>st</sup> to the 31 <sup>st</sup>			
+1.4°	+2.6°	115%	64%	+1.6°	+2.9°	48%	55%	+1.2°	+2.4°	5%	18%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

# Wokingham climatological graphs for December 2024



Month: DECEMBER 2024

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	13.4	11.3	2.2	10.1	8.7	10.1	1.0	0.0	1013.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	187	6.2	7.0	173	20	0652	151	9	00	2.1	
2	10.9	7.2	0.1	4.3	9.3	10.2	4.9	0.0	1012.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	266	6.4	7.5	267	24	1232	264	10	11	0.5	
3	7.1	2.9	tr	-1.3	9.0	10.2	3.8	0.0	1023.3	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	331	2.4	3.0	335	11	0335	341	5	04	0.1	
4	13.2	-0.5	5.1	-4.1	8.4	10.2	0.0	0.8	1026.2	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	207	3.5	4.1	179	21	2336	170	9	22	3.7	
5	13.5	4.7	5.5	7.8	8.7	10.2	0.0	0.0	1009.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	227	9.5	10.7	261	33	1929	230	15	18	2.6	
6	12.9	4.0	3.5	-1.4	9.2	10.1	4.4	0.0	1018.9	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	228	5.5	7.8	267	34	0021	270	14	00	3.6	
7	7.2	5.2	3.4	5.5	9.0	10.1	0.0	0.0	990.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	273	14.7	17.8	247	52	0642	245	22	07	8.9	
8	7.7	5.7	3.5	5.1	8.8	10.1	0.0	0.0	1018.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	345	13.2	13.7	331	41	0024	347	17	09	7.0	
9	7.9	5.8	0.8	4.8	8.6	10.1	0.2	0.0	1031.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	16	10.3	10.3	16	27	1435	17	12	20	1.3	
10	6.7	5.4	0.1	4.7	8.7	10.0	0.0	0.0	1033.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	24	8.8	8.8	19	24	0204	22	10	03	0.2	
11	6.4	5.2	0.0	5.0	8.5	10.0	0.0	0.0	1033.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	26	6.8	6.8	51	19	0208	31	9	02	0.0	
12	6.9	4.6	1.7	4.0	8.5	9.9	0.0	0.0	1032.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	18	3.4	3.5	13	12	0640	13	5	06	8.8	
13	6.1	4.8	0.4	5.3	8.6	9.9	0.0	0.0	1026.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	164	1.1	3.0	187	9	1218	235	4	22	1.9	
14	9.5	3.6	0.0	3.7	8.5	9.8	3.6	0.0	1022.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	257	4.8	5.1	284	18	1434	296	8	12	0.0	
15	12.3	4.9	0.1	-0.1	8.2	9.8	0.8	0.0	1027.6	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	244	8.1	8.1	238	23	1956	244	11	20	0.1	
16	11.9	9.0	tr	8.0	8.7	9.7	0.6	0.0	1032.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	228	7.2	7.4	239	25	0051	245	12	00	0.1	
17	13.6	2.1	2.4	-1.4	8.8	9.7	0.0	0.0	1026.1	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	182	6.6	6.7	183	23	2208	185	11	22	2.0	
18	13.8	8.0	3.3	7.2	8.9	9.8	0.0	0.0	1007.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	211	11.0	11.5	229	30	0922	231	14	09	2.8	
19	7.4	4.7	tr	2.6	9.5	9.8	4.3	0.0	1006.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	276	8.2	8.7	316	32	0140	291	13	01	0.0	
20	9.0	1.5	2.1	-3.2	8.6	9.9	2.9	0.0	1021.6	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	225	6.5	6.7	216	20	1711	222	10	11	2.4	
21	12.2	2.9	0.3	-0.9	8.1	9.8	0.1	0.0	1013.2	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	232	9.9	10.2	256	40	1546	223	15	10	1.0	
22	6.8	4.1	tr	1.3	8.2	9.7	3.5	0.0	1005.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	266	11.8	12.1	292	37	1450	258	15	09	0.1	
23	9.6	3.5	0.4	0.7	7.6	9.6	0.9	0.0	1025.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	279	5.7	6.5	297	25	0049	295	12	00	1.0	
24	11.9	3.9	0.1	1.3	7.6	9.4	0.0	0.0	1025.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	255	4.3	4.5	274	13	1539	272	6	16	0.3	
25	9.7	8.2	0.2	6.0	8.2	9.3	0.0	0.0	1033.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	263	3.8	3.8	269	12	0217	269	5	10	1.5	
26	6.4	6.3	0.1	6.7	8.6	9.3	0.0	0.0	1035.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	142	1.2	1.8	166	6	1035	115	3	09	0.5	
27	6.1	5.1	0.2	5.5	8.7	9.4	0.0	0.0	1033.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	211	1.3	1.6	209	5	0220	206	2	16	0.6	
28	6.4	3.9	tr	4.4	8.6	9.4	0.0	0.0	1030.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	291	4.0	4.3	303	13	1329	324	7	22	0.1	
29	8.5	2.2	0.0	2.8	8.5	9.4	0.0	0.0	1031.5	0 0 0 0	0 0 0 0	0 0 0 1	0 0 0 0	259	3.8	5.0	242	17	1943	255	8	23	0.0	
30	8.7	3.6	0.0	6.6	8.4	9.4	0.0	0.0	1029.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	234	6.5	6.5	231	18	1402	234	8	11	0.0	
31	12.2	6.4	tr	0.9	8.6	9.4	0.1	0.0	1022.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	221	11.2	11.2	228	40	2239	223	19	21	0.0	
Total			35.5				31.1	0.8																53.2
Mean	9.5	4.8		3.3	8.6	9.8	1.00	0.0	1022.6					257	3.9	7.3								
Anom	+1.0	+2.5	55%	+3.7	+1.7	+0.5	46%																	+7.0

Daily mean 7.2 Pressure, abs highest = 1036.1 on 26  
 Anom +1.8 Pressure, abs lowest = 990.0 on 7

Number of days with:  
 Air frost = 1 Ground frost = 7 Nil sun = 31  
 Snow falling = 0 Snow lying = 0 Thunder = 0  
 Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 1

Abbreviations.

- Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT
- Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).
- Grass min = Lowest overnight temperature at grass tip level.
- Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.
- pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.
- Af = Air frost. Gf = Ground frost. Sf = Snow falling. Sl = Snow lying at 09 GMT.
- Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.
- Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.
- Sp = 24 hour mean wind speed in knots.
- Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.
- High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.
- 30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.
- 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 2024

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NChs	hshs	NChs	Date	Remarks
1	56	8	18	09	17	12.1	11.3	95	8.3	1013.5	6	011	61	6	2	7	7	3	2	/	87706	88530			
2	84	3	24	08	14	7.9	6.2	89	5.9	1012.2	2	008	15	0	0	1	5	4	3	0	81712	83360	2	1Sc50 jpN	
3	68	5	35	02	06	4.4	3.1	91	4.7	1023.3	2	014	01	2	2	5	5	4	0	0	82613	84656	3		
4	62	7	23	04	09	4.7	4.0	95	5.0	1026.2	1	008	21	6	2	7	5	4	/	1	87617		4	/Ci75	
5	56	8	23	09	19	13.2	12.4	95	9.0	1009.2	6	006	51	5	5	7	7	3	1	/	87708	88465	5		
6	70	2	25	06	13	5.2	2.2	81	4.4	1018.9	1	030	02	0	0	1	0	9	4	1	81369		6	2Ci75 KH billows S	
7	63	8	25	19	45	6.5	3.8	83	5.1	990.7	6	010	63	6	2	7	5	4	2	/	87618	88530	7		
8	80	7	35	18	37	6.6	2.5	75	4.5	1018.4	2	035	60	6	2	7	5	5	/	/	86620	85635	8		
9	60	7	02	08	19	6.2	5.2	93	5.4	1031.6	2	015	25	8	2	7	8	4	/	/	81712	86815	85635	9	jp NE&SW
10	20	8	03	07	15	5.6	5.2	97	5.4	1033.6	3	008	53	5	2	8	5	2	/	/	86705	88613	10		
11	81	8	02	06	15	5.4	2.9	84	4.6	1033.1	3	006	20	5	2	8	5	4	/	/	87615	88620	11		
12	65	8	36	03	07	4.7	4.0	95	4.9	1032.7	3	002	02	2	2	8	6	3	/	/	88706		12		
13	20	8	07	02	04	5.7	5.6	99	5.5	1026.7	1	002	51	5	5	8	7	2	/	/	87703	88704	13		
14	65	7	27	06	10	5.4	4.5	94	5.2	1022.6	2	013	02	6	2	7	5	4	/	/	81715	86640	87650	14	
15	82	7	23	05	14	9.5	8.1	91	6.6	1027.6	2	017	03	2	2	3	6	3	4	2	83708	87075	15	1Sc14 2Ac65 COTRA	
16	65	7	22	08	14	9.2	8.1	93	6.6	1032.3	3	006	20	5	2	7	7	3	/	/	86708	85630	16		
17	62	7	18	05	09	9.0	8.7	98	6.9	1026.1	7	016	02	5	2	7	5	3	7	/	83708	85612	87625	17	/Ac60
18	80	7	23	14	26	13.5	10.9	84	8.1	1007.0	3	005	20	5	2	7	5	4	/	1	86616	86622	18	/Ci75	
19	84	1	26	07	17	4.8	2.2	83	4.5	1006.9	2	036	01	6	1	1	5	6	4	0	81632		19	1Ac62	
20	65	7	21	05	12	2.9	1.4	90	4.2	1021.6	8	006	03	2	2	2	5	6	0	1	82640	86078	20	2Ci72 COTRA Parhelia Hoar slt	
21	67	8	21	10	19	8.0	6.6	91	6.0	1013.2	8	030	21	6	2	2	5	4	7	/	81712	83357	86362	21	2Sc45 8As68
22	82	2	26	14	25	4.6	-0.6	69	3.7	1005.9	3	008	02	0	0	1	5	6	6	3	81640		22	1Ac65 2Ci68	
23	70	2	29	06	15	3.9	0.2	77	3.8	1025.7	2	029	03	0	0	2	0	9	5	1	82368		23	1Ci70 1Ci80 COTRA Ac str vir	
24	30	8	23	05	09	9.6	9.5	99	7.2	1025.5	2	013	10	2	2	8	6	1	/	/	88702		24		
25	20	8	27	03	11	8.5	8.2	98	6.6	1033.3	2	015	50	5	2	8	6	2	/	/	88703		25		
26	20	8	17	04	10	6.4	6.3	99	5.8	1035.7	3	008	50	5	2	8	6	1	/	/	88702		26		
27	56	8	35	02	04	5.7	5.6	99	5.5	1033.9	2	001	20	5	2	8	6	2	/	/	88703		27		
28	18	8	25	03	06	3.9	3.9	100	4.9	1030.0	1	005	51	5	4	8	6	1	/	/	88702		28		
29	03	8	26	03	08	3.7	3.7	100	4.8	1031.5	1	010	51	4	5	8	6	0	/	/	88701		29		
30	88	7	23	07	15	7.4	4.9	84	5.3	1029.1	3	005	02	2	2	7	5	4	/	/	87612		30		
31	88	7	22	08	15	8.6	6.7	88	6.0	1022.5	6	013	03	1	1	6	5	6	0	6	86642	83275	87080	31	

Mean vis = 20.3 km

Mean cloud = 6.6 82%

Mean wind speed = 7.0 kn

Mean gust = 15 kn

Mean TT = 6.9 °C

Mean TdTd = 5.4 °C

Mean RH = 90.6 %

Mean r = 5.6 g/kg

Mean PPP = 1022.6 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 2024

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	81	2	22	08	18	12.8	11.0	89	8.2	1012.0	6	004	01	6	5	2	8	4	0	0	81815			1	2Sc25 1Sc45 Cu con top distant NW
2	88	6	29	10	22	9.3	2.8	64	4.6	1014.4	3	009	03	8	2	6	8	5	/	/	84828	86640	2	Cu hum	
3	84	7	35	01	06	5.8	3.3	84	4.7	1023.2	0	000	03	1	1	3	8	4	0	1	81818	83650	87075	3	Cu med
4	72	8	19	03	09	8.9	6.2	83	5.8	1024.2	7	020	03	2	2	3	5	5	1	/	81625	83630	88465	4	
5	61	8	23	10	19	13.0	11.4	90	8.4	1005.8	8	033	61	6	5	7	5	4	2	/	84618	86635	88556	5	
6	75	8	21	04	10	8.3	3.0	69	4.7	1017.7	7	016	03	2	2	8	0	9	7	/	85360	86363	88468	6	
7	62	8	30	14	32	6.2	4.2	87	5.2	996.2	2	045	61	6	6	7	5	4	2	/	84615	86618	88550	7	
8	62	8	35	14	29	6.8	4.1	83	5.0	1020.4	2	008	61	6	6	7	5	4	2	/	86618	87625	88540	8	
9	65	7	01	12	27	6.9	4.6	85	5.1	1031.4	5	002	21	6	2	7	5	4	/	/	87614			9	/Sc25
10	82	7	02	09	20	6.6	2.7	76	4.5	1032.5	5	007	02	2	2	7	5	5	/	/	87625			10	
11	81	8	03	06	12	6.2	3.0	80	4.6	1032.6	5	002	02	2	2	8	5	4	/	/	88618			11	
12	17	8	03	03	08	6.8	6.5	98	5.9	1030.1	6	015	51	5	5	8	6	1	/	/	87702	88703		12	
13	35	8	19	03	07	4.4	4.1	98	5.0	1024.5	7	011	51	5	2	8	7	2	/	/	86703	88705		13	
14	82	3	28	07	18	6.9	2.6	74	4.5	1023.6	1	006	03	1	1	2	8	5	5	9	81825			14	1Sc30 1Ac66 1Cc70 1Ci75 COTRA Cu hum
15	86	7	24	08	17	12.1	9.8	86	7.4	1028.9	3	003	02	2	2	7	5	4	/	/	87613			15	
16	88	7	23	07	15	10.7	5.7	71	5.6	1030.8	7	011	02	2	2	7	5	6	/	8	81630	87638		16	/Cs70
17	65	8	19	06	18	9.2	7.5	89	6.4	1021.0	7	028	50	2	2	8	5	3	/	/	87709	88612		17	
18	75	7	21	09	18	12.7	9.0	78	7.1	1007.6	8	011	02	2	2	7	5	4	/	8	81615	87620		18	/Cs75
19	86	3	29	12	26	6.1	0.8	69	4.0	1012.2	2	032	01	8	1	2	8	5	0	0	81825	83640		19	Cu hum
20	70	8	22	08	17	8.9	5.8	81	5.7	1016.6	6	027	15	2	2	7	5	4	7	/	85612	86622	88463	20	1Ac60 jpNW
21	60	7	24	14	28	11.9	10.8	93	8.1	1007.5	5	025	21	6	2	7	8	3	/	1	83708	85812		21	2Sc40 /Ci75 Cu med N jpS vv70k NW
22	88	7	29	17	37	6.1	1.4	72	4.2	1008.4	3	017	21	6	1	7	8	5	/	/	83822	85645		22	Cu fra/hum
23	82	8	25	05	12	6.9	2.2	72	4.4	1024.9	5	504	03	2	2	3	5	7	7	/	83656	86358	88360	23	
24	82	7	28	06	11	11.8	10.5	92	7.8	1026.9	3	003	01	2	2	7	5	3	/	/	87608			24	/Sc15
25	60	8	29	03	08	9.7	8.9	95	6.9	1033.4	4	000	50	5	2	8	6	3	/	/	85704	88705		25	
26	15	8	14	03	05	5.4	5.3	99	5.4	1034.7	6	006	20	5	2	8	6	1	/	/	88702			26	
27	13	8	21	02	05	5.8	5.7	99	5.6	1032.1	6	013	51	5	4	8	6	0	/	/	88701			27	Wind est
28	62	8	28	05	08	5.7	5.3	97	5.4	1028.4	5	010	20	5	2	8	6	2	/	/	87705	88706		28	
29	58	8	21	04	10	6.6	6.5	99	5.9	1029.9	6	012	28	4	2	8	5	2	/	/	81703	88615		29	
30	88	7	22	07	17	8.5	5.6	82	5.6	1027.1	6	015	02	2	2	7	5	4	/	/	87615			30	
31	86	8	23	13	25	11.6	7.1	74	6.2	1018.1	6	022	02	2	2	7	8	5	/	7	82822	83635	85645	31	8Cs78 Cu hum

Mean vis = 30.5 km

Mean cloud = 7.1 89%

Mean wind speed = 7.5 kn

Mean gust = 17 kn

Mean TT = 8.3 °C

Mean TdTd = 5.7 °C

Mean RH = 84.1 %

Mean r = 5.7 g/kg

Mean PPP = 1021.8 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.

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Cl = Type of low cloud (Code Fm12-0513)

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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  2024	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	0.63	0.16	0.00	0.00	0.67	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00
9	0.00	1.00	0.44	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26
10	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
11	0.00	0.85	0.85	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00
12	0.00	0.05	0.46	0.00	0.00	0.08	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.34
13	0.02	0.77	0.50	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.25	0.00
14	0.55	0.23	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
15	0.37	0.39	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	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	<b>0.95</b>	<b>4.92</b>	<b>3.84</b>	<b>0.00</b>	<b>0.00</b>	<b>4.35</b>	<b>0.00</b>	<b>0.00</b>	<b>0.19</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.62</b>	<b>0.81</b>	<b>0.60</b>

	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	0.37	0.47	0.00	0.42	0.23	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	1.00	0.75	0.00	0.86	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
10	0.00	0.01	1.00	0.78	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
11	0.00	0.00	0.87	0.92	0.02	0.64	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
12	0.00	0.00	0.29	0.00	0.06	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09
13	0.00	0.00	0.14	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
14	0.00	0.00	0.23	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
15	0.00	0.00	0.41	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
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	<b>0.00</b>	<b>0.01</b>	<b>4.32</b>	<b>2.92</b>	<b>0.13</b>	<b>3.51</b>	<b>0.91</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.04</b>	<b>31.11</b>

DECEMBER 2024	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	11.99	13.4	1419	11.0	2357	92.1	97.6	1254	86.0	2033	10.7	8.0	9.1	1327	7.2	2354	1013.63	1019.5	1	1011.4	2331	2.2	
2	8.59	11.4	151	4.1	2355	82.9	98.3	2359	63.6	1443	5.8	5.7	7.3	19	4.4	1533	1014.12	1020.3	2351	1010.8	309	0.3	
3	4.24	7.1	1225	0.5	2330	91.0	100.0	2330	75.9	1259	2.8	4.6	5.3	134	3.9	2330	1023.22	1025.9	2255	1020.1	1	0	
4	6.17	9.7	2354	-0.5	100	90.5	100.0	20	80.4	1653	4.7	5.3	7.1	2357	3.6	100	1024.06	1026.6	1050	1017.0	2358	1.6	
5	11.75	13.5	1114	8.1	2322	90.3	98.0	546	65.1	2213	10.2	7.8	9.1	1054	4.6	2213	1007.62	1017.2	1	999.6	1843	7.3	
6	7.95	12.4	2345	4.0	733	76.5	96.8	2309	61.4	1316	4.0	5.1	8.7	2359	4.0	733	1013.30	1020.2	1025	997.4	2358	1.3	
7	7.66	12.9	41	5.9	1010	79.8	96.9	8	64.5	630	4.4	5.3	8.8	25	4.3	2237	996.41	1007.9	2351	990.0	745	4.1	
8	6.62	7.7	2257	5.7	526	84.5	95.9	1924	70.9	1003	4.2	5.1	5.8	1947	4.3	950	1018.88	1027.9	2341	1007.2	4	2.6	
9	6.88	7.9	1237	5.8	843	85.7	97.2	535	75.6	2233	4.6	5.2	5.7	507	4.5	2243	1031.17	1033.1	2341	1027.7	0	1.6	
10	6.20	6.7	1433	5.4	744	82.7	97.7	914	73.7	1455	3.5	4.7	5.4	909	4.4	1541	1032.94	1033.8	921	1032.1	1543	0.6	
11	5.83	6.4	1220	5.2	804	80.6	85.1	817	76.2	237	2.8	4.5	4.8	1331	4.2	250	1032.81	1033.7	2259	1031.9	333	0	
12	6.04	6.9	1401	4.6	721	93.6	99.1	2350	78.3	148	5.1	5.3	6.0	1827	4.3	147	1031.21	1033.6	2	1028.4	2353	1	
13	5.10	6.6	1	3.6	1945	98.4	99.5	744	92.3	1211	4.9	5.3	5.9	10	4.7	1847	1025.48	1028.5	0	1022.7	2359	0.9	
14	5.69	8.2	1209	4.3	113	87.9	99.0	228	71.6	1354	3.8	4.9	5.3	1034	4.4	1510	1023.43	1026.2	2327	1021.2	516	0.1	
15	10.03	12.3	1322	5.3	40	87.9	93.2	433	82.4	2258	8.1	6.6	7.6	1322	4.8	42	1028.22	1031.3	2347	1025.2	249	0	
16	9.65	11.9	1222	6.3	2359	85.2	97.3	2354	69.0	1449	7.2	6.2	6.7	613	5.4	1512	1031.24	1032.7	1030	1030.1	2347	0.1	
17	7.81	9.8	1044	2.1	345	92.6	100.0	215	83.3	2108	6.7	6.0	6.9	1003	4.3	345	1022.71	1030.5	23	1011.7	2359	0.7	
18	12.53	13.8	1248	9.2	0	87.7	97.9	133	70.7	1308	10.5	7.9	8.9	2123	6.7	1308	1005.58	1011.9	3	995.5	2359	3.5	
19	5.92	12.7	0	3.0	2329	78.6	91.9	136	65.3	1203	2.4	4.6	7.9	32	3.8	2320	1009.47	1021.8	2341	994.9	55	0.7	
20	5.31	9.0	1511	1.5	225	89.0	97.2	2357	76.8	1150	3.6	4.9	6.2	1823	3.8	23	1019.16	1022.8	345	1015.1	1858	0.9	
21	8.20	12.2	1518	4.3	354	86.1	97.9	17	67.1	1659	5.9	5.8	8.1	1450	4.8	2359	1011.37	1018.0	236	1005.0	2333	1.3	
22	5.56	7.2	2	4.1	727	69.0	80.8	418	56.8	2142	0.3	3.9	4.8	0	3.3	2145	1008.56	1017.9	2358	1004.6	215	0.2	
23	5.54	7.0	1353	3.5	722	76.5	98.1	2154	60.6	0	1.6	4.2	5.9	2359	3.3	406	1023.41	1026.2	1037	1017.7	1	0.3	
24	9.37	11.8	1518	5.9	533	96.5	99.3	534	90.9	1518	8.8	6.9	8.0	1412	5.6	533	1026.57	1030.8	2336	1023.2	230	0	
25	8.93	9.6	1427	8.1	704	96.2	98.7	920	91.9	351	8.4	6.6	7.0	1256	6.3	2353	1033.02	1034.8	2124	1030.2	37	0.2	
26	6.19	8.3	7	5.0	1711	98.3	99.4	1643	95.2	1135	5.9	5.6	6.4	25	5.2	1534	1034.87	1036.1	941	1034.0	124	0.2	
27	5.43	6.0	1205	4.1	2350	99.4	100.0	1656	98.3	154	5.3	5.4	5.6	1205	5.0	2350	1033.00	1034.4	213	1031.1	2359	0.2	
28	4.83	6.3	1728	3.7	948	97.6	100.0	0	88.3	2017	4.5	5.1	5.5	1651	4.8	948	1029.57	1031.3	4	1028.1	1358	0.2	
29	5.35	8.4	1949	2.1	514	96.0	100.0	321	82.6	2126	4.7	5.2	6.1	1804	4.3	514	1030.36	1032.0	1005	1029.4	233	0.1	
30	7.79	8.5	1736	7.3	839	83.2	86.9	2257	79.4	1731	5.1	5.3	5.7	2256	5.1	1939	1028.13	1030.1	0	1025.9	2358	0	
31	9.83	11.7	1647	6.3	511	79.8	94.9	756	66.8	2014	6.4	5.9	6.5	1256	5.3	38	1020.13	1026.1	0	1013.4	2307	0	
Total																							32.2
Mean	7.39	9.58		4.82		87.6	96.60		76.16		5.38	5.58	6.70		4.67		1022.05	1026.54		1017.18			
Max	12.53	13.75		10.96		99.4	100.00		98.30		10.75	7.96	9.12		7.25		1034.87	1036.07		1034.01			
Min	4.24	6.02		-0.49		69.0	80.80		56.80		0.26	3.87	4.76		3.27		996.41	1007.88		990.04			

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, 1<sup>st</sup> January to 31<sup>st</sup> 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  $-0.1^{\circ}\text{C}$  or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is  $-0.1^{\circ}\text{C}$  or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below  $0.0^{\circ}\text{C}$ , 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 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.