

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

SEPTEMBER 2023

Temperature (°C)	Anomaly	Rank in the past 142 years
Mean maximum	23.4	+3.7 2nd highest
Mean minimum	12.6	+2.6 2nd highest
Daily mean	18.0	+3.1 Equal highest with 2006
Highest maximum	32.0	on 9th Lowest maximum 18.3 on 22nd
Highest minimum	17.1	on 11th Lowest minimum 6.5 on 23rd
Mean grass minimum	10.0	+3.3 Lowest grass minimum 3.4 on 23rd
Mean earth @30 cm	18.5	+1.9 Earth @100 cm 18.0 +1.2
Frost duration (hrs)	0.0	Rain duration (hrs) 19.7
Rainfall total (mm)	58.0	108 % 51st highest
Highest daily fall	37.4	on 20th Highest rate mm/hr 89 on 20th
Number of: Dry days (<0.2mm)	21	Wet days (>0.9mm) 5 days ≥5mm 3
Sunshine total (hrs) 181.2	Daily mean 6.04	117 % Sunniest day 12.6 on 5th
N° days with: Air frost 0	Ground frost 0	Snow falling 0 Snow lying 0
Thunder 2	Hail ≥5mm 0	Small hail/ice 0 Fog @09 0 Nil sun 1
Pressure MSL : Mean @09 GMT, mbar 1014.8	-1.9	Highest 1027.8 on 3rd Lowest 993.3 on 20th
Relative humidity : Mean (%) 80.9	Lowest 36 on 4th	Water vapour (g/kg), mean at 09 and 15 GMT 10.3, 9.9
Overall mean wind speed (mph) 4.7	Windiest day 12.0 on 19th	Max gust 41 on 20th
Wind direction (days) N 2 NE 5 E 4 SE 1 S 7 SW 9 W 2 NW 0		
Least windy day (mph) 1.3 on 9th	Calm; less than 0.5 mph (minutes)	n/a

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

Notes:

Near Record Warmth with Above Average Rainfall and Sunshine

Temperature: This September has produced near record warmth, with a daily mean temperature equal highest with 2006 in the past 142 years. The men maximum is highest since 1929, the record holder, 0.2° warmer than in this September. The mean minimum is also 2nd highest since before 1882, but was exceeded by 0.8° in 2006. The highest maximum is 7.5° above the median and is highest for the month since 1911 and 3rd highest in 120 years, while the lowest max is 4.3° above its median, is 2nd highest after 1959 in the past 111 years. The highest min is 1.9° above the median while the lowest min is 3.6° above its median. The mean grass min is equal highest with 2006 in the past 44 years, and the lowest value is highest in that period. Mean earth temperature at 30cm depth is highest since before 1980, and at 1 m depth, highest since before 1989, as are the highest daily values at both depths. Anomalies for daily max were above +5° from the 3rd to the 11th and 14th to 16th, and above +10° on the 7th and 9th, with extreme values of +11.6° on 9th and -0.1° on 21st and 22nd. Anomalies for daily min were above +5° on the 7th, 8th, 10th to 12th and 20th, and exceeded -1° on the 15th and 21st to 23rd, with extreme values of +6.8° on 11th and -2.7° on 23rd. **Rainfall:** The total this September is 8% above the 30 year climatological average. Interestingly, for the 16 years to 2015, only the Septembers of 2000 and 2001 were wetter than 2023, yet in the following 7 years 4 have been wetter. There was plenty of dry weather, especially before mid-month, with only 1.4 mm recorded between the 1st and 16th, but 64% of the month's total fell on the 20th. During this rainfall event there were several episodes of heavy rain, and 21.4 mm fell in the hour to 2000 GMT, the 4th highest hourly rain for any month since before 1998. Rainfall accumulation compared with normal was 17 mm in deficit on the 9th, increasing to 25 mm by the 19th, but after the very wet 20th there was a surplus of 12 mm on the 21st, decreasing to 4 mm by the 30th. Thunder occurred on the 17th and 21st, and the rainfall rate reached the violent category on the 20th only, but there was no hail this month. **Sunshine:** This September's sunshine is 17% above average and is the highest since 2020, but only 2003, 2012, 2018 have also been sunnier in this millennium. The month got off to a sunny start, with 75.5 hours in the 7 days to the 9th, a mean of 10.8 hours per day. Daily accumulation compared with normal was 35 hours in surplus by the 9th, the surplus then fluctuated between 26 and 38 hours, ending the month with a surplus of 28 hours. Overall there were 8 days with <3 hours, 16 with =>6 hours and 2 with =>12 hours. **Wind:** The mean speed is 1.0 mph above average, but is equal lowest with 2022 only since 2014. The mean speed on this month's windiest day and the highest gust are both slightly above average. Daily mean speed was light or very light up to the 17th, fresh from 18th to 20th, then light or moderate. Daily mean direction was between N and E from 1st to 7th, on 12th, 13th, 16th and 17th, between E and S on the 15th, otherwise from between S and W. **Historical note:** Regarding temperature, the monthly weather report of the Met Office for September 1929 bears a striking similarity to September 2023. Quote: " September 1929 was unusually warm, ...the hottest days occurred generally during the period 4th to 9th, the temperature rising above 89°F, (31.7°C) on the 4th and 8th. The highest temperature reached during the hot spell was 90°F (32.2°C)...In all districts the departure from normal for the mean temperature exceeded 5°F (2.7°C)."

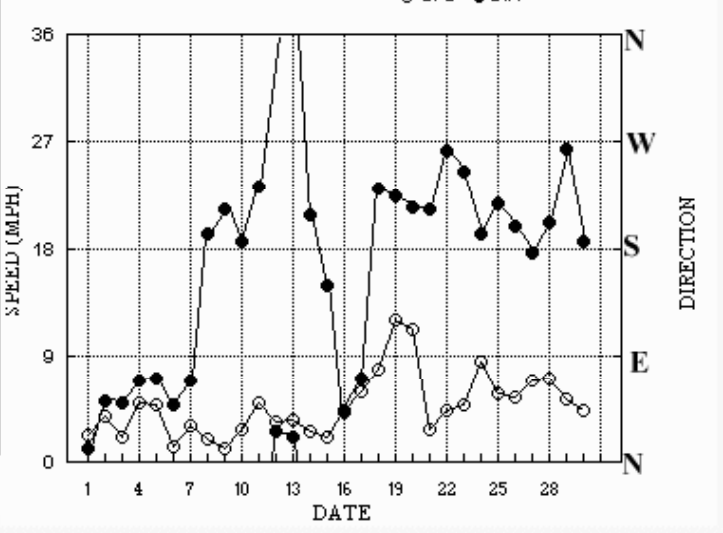
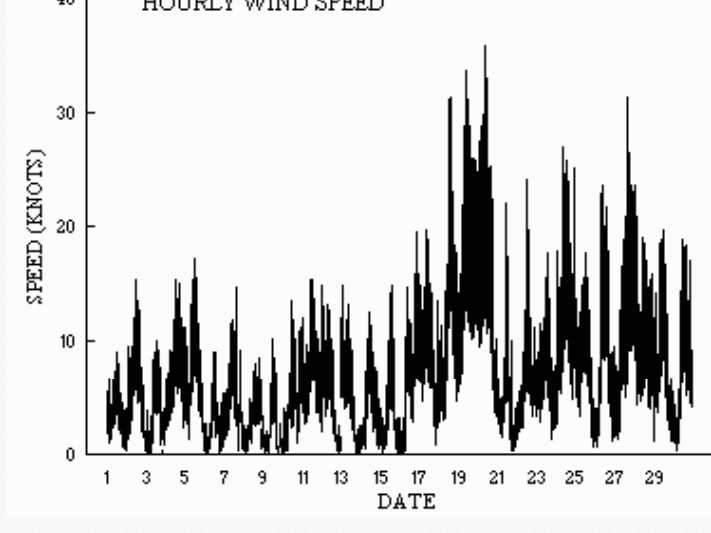
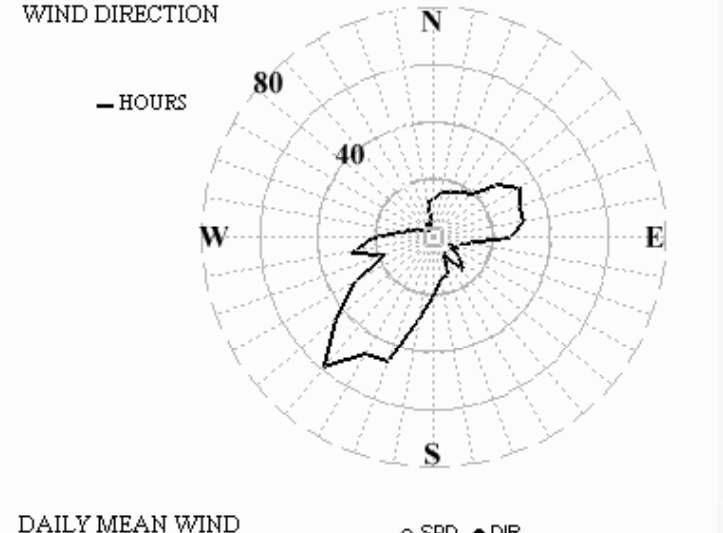
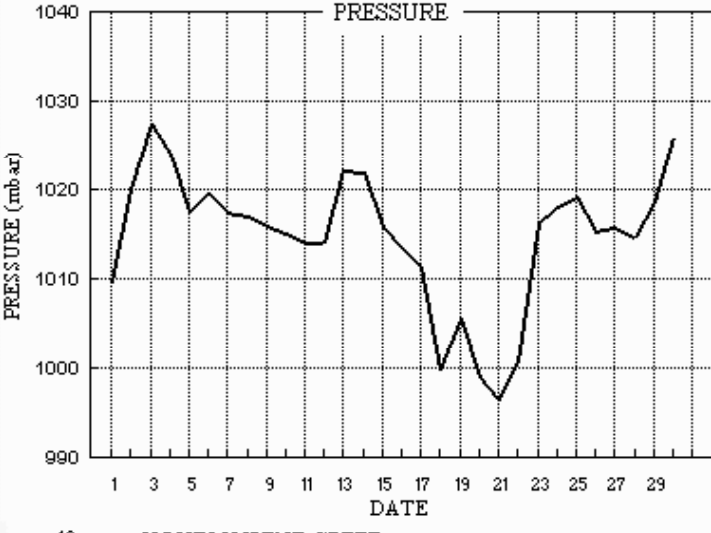
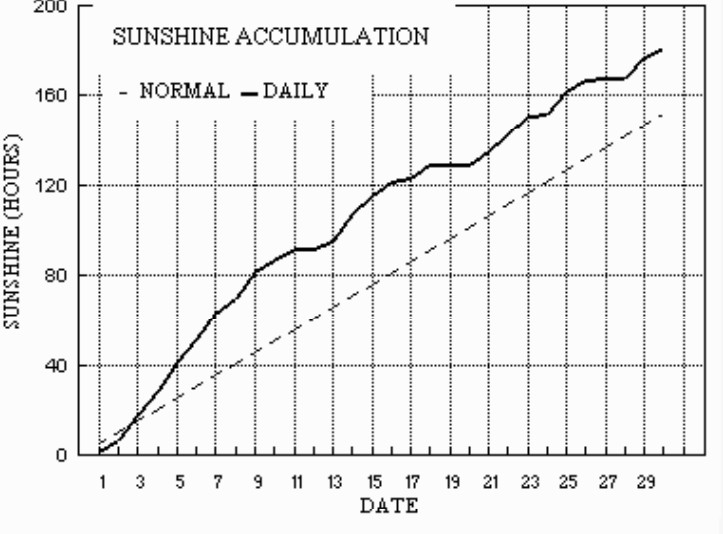
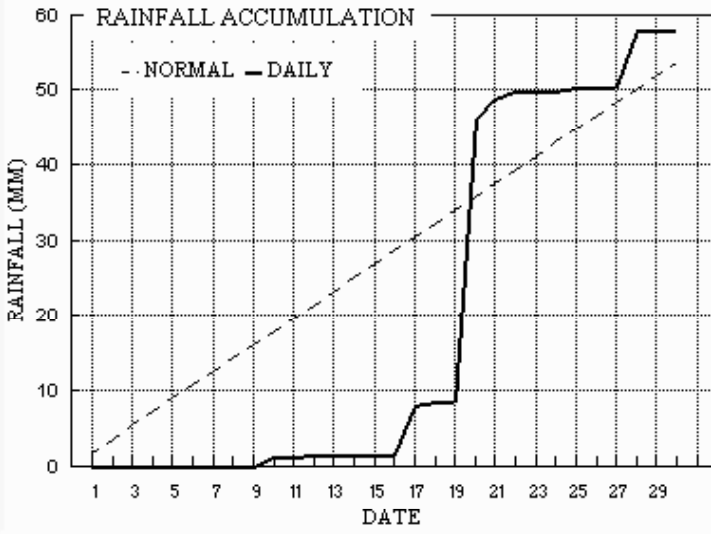
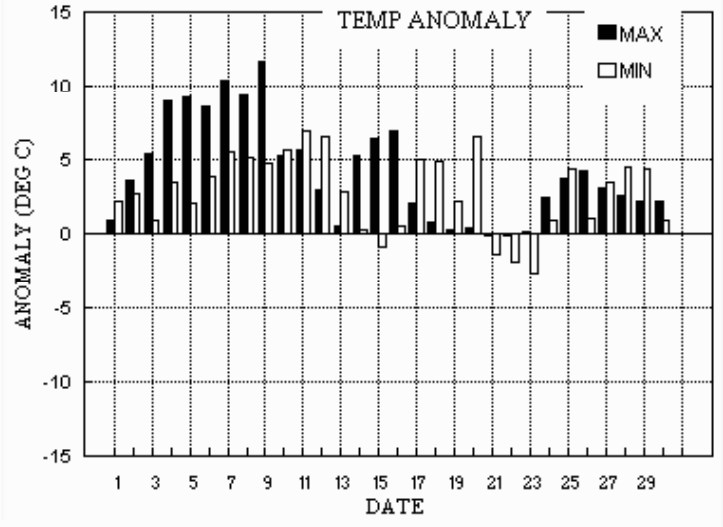
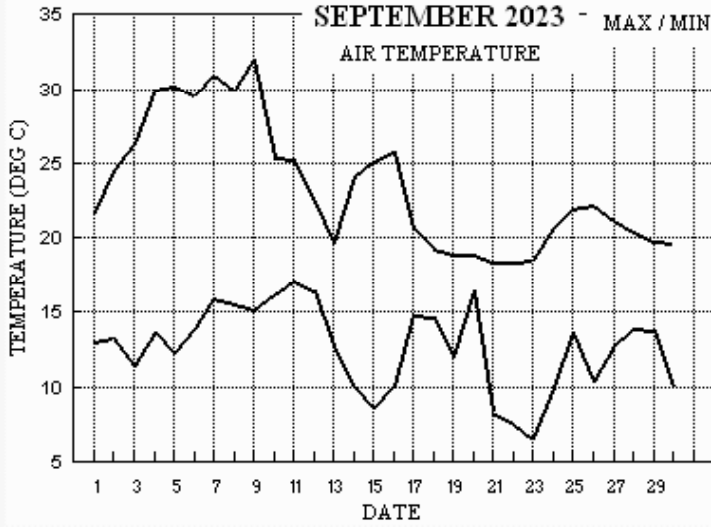
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
+7.3°	+3.6°	6%	169%	+3.1°	+3.5°	51%	81%	+2.0°	+1.3°	67%	101%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for September 2023



Month: SEPTEMBER 2023

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec ddd	mean ff	sp	Max gust ddd	gg	HHhh	High hr ddd	ff	HH	Rain hrs	
1	21.7	13.0	tr	13.3	18.0	18.0	1.6	0.0	1009.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	12	1.5	2.0	354	9	1215	342	4	12	0.1	
2	24.4	13.2	0.0	10.2	18.4	17.9	5.1	0.0	1020.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	52	3.3	3.4	42	15	1215	42	7	11	0.0	
3	26.3	11.3	0.0	8.6	18.7	17.9	11.3	0.0	1027.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	50	1.7	1.8	33	10	1250	25	5	16	0.0	
4	29.9	13.7	0.0	10.4	19.0	18.0	10.8	0.0	1024.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	70	4.2	4.3	83	15	1325	89	7	18	0.0	
5	30.2	12.2	0.0	7.8	19.3	18.0	12.6	0.0	1017.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	71	4.0	4.2	66	17	1225	67	7	12	0.0	
6	29.5	13.9	0.0	11.6	19.5	18.1	10.6	0.0	1019.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	48	1.0	1.2	76	9	1110	67	4	11	0.0	
7	31.0	15.9	0.0	12.3	19.9	18.2	11.3	0.0	1017.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	70	1.6	2.7	314	15	1520	76	5	09	0.0	
8	29.9	15.5	0.0	12.8	20.1	18.3	6.9	0.0	1017.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	192	1.5	1.7	214	9	2050	193	3	12	0.0	
9	32.0	15.2	0.0	12.6	20.3	18.4	12.0	0.0	1016.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	212	0.6	1.1	249	10	1230	234	4	12	0.0	
10	25.3	16.2	1.1	13.3	20.5	18.5	4.9	0.0	1015.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	186	1.1	2.4	234	14	1135	221	5	22	1.1	
11	25.2	17.1	0.0	13.9	20.1	18.6	5.2	0.0	1014.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	232	4.2	4.3	218	15	1155	212	8	13	0.0	
12	22.4	16.5	0.3	14.1	20.2	18.7	0.1	0.0	1014.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	26	2.4	3.0	20	15	1550	26	6	09	1.0	
13	19.6	12.7	0.0	12.3	19.9	18.7	3.0	0.0	1022.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	21	2.5	3.1	20	15	0155	25	7	07	0.0	
14	24.1	9.9	0.0	7.0	19.2	18.7	11.6	0.0	1021.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	208	2.2	2.3	203	13	1155	216	5	10	0.0	
15	25.1	8.5	0.0	5.4	18.9	18.6	8.5	0.0	1015.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	149	1.2	1.8	199	15	1430	151	6	12	0.0	
16	25.7	10.1	0.0	7.6	18.6	18.5	6.2	0.0	1013.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	42	3.5	3.7	45	20	2140	47	8	21	0.0	
17	20.6	14.8	6.5	12.4	18.7	18.4	1.1	0.0	1011.3	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	71	4.9	5.3	71	20	0855	72	8	09	3.0	
18	19.3	14.7	0.7	12.5	18.8	18.3	6.0	0.0	999.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	230	6.2	6.8	256	32	1410	246	13	13	1.2	
19	18.8	12.0	tr	10.3	18.2	18.3	0.0	0.0	1005.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	224	10.3	10.4	235	34	0945	228	14	10	0.0	
20	18.9	16.4	37.4	15.6	18.1	18.2	0.1	0.0	999.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	214	9.4	9.8	213	36	0850	210	15	11	6.9	
21	18.4	8.3	2.9	4.6	17.6	18.1	6.4	0.0	996.4	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	212	2.2	2.5	203	22	1145	199	6	11	1.0	
22	18.3	7.5	0.9	4.0	17.1	17.9	7.4	0.0	1000.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	262	3.7	3.7	293	24	1400	263	7	13	0.7	
23	18.5	6.5	tr	3.4	16.6	17.7	8.3	0.0	1016.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	244	3.6	4.2	273	18	1410	260	7	11	0.1	
24	20.7	10.0	0.1	6.4	16.4	17.5	0.6	0.0	1018.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	192	7.3	7.4	197	27	1035	197	11	14	0.3	
25	21.9	13.6	0.4	8.9	16.8	17.3	10.4	0.0	1019.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	217	4.8	5.0	208	23	0010	218	8	13	0.2	
26	22.2	10.3	tr	7.4	17.0	17.2	4.9	0.0	1015.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	199	4.0	4.8	193	24	0915	192	10	09	0.1	
27	21.1	12.7	tr	9.8	17.2	17.2	0.6	0.0	1015.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	176	4.7	6.0	189	32	1750	201	12	18	0.1	
28	20.4	13.9	7.7	11.1	17.2	17.2	0.4	0.0	1014.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	201	5.7	6.2	228	24	0135	220	10	00	3.9	
29	19.8	13.8	0.0	12.9	17.2	17.2	9.2	0.0	1018.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	263	4.4	4.7	248	20	1300	254	9	12	0.0	
30	19.6	10.0	0.0	7.5	17.0	17.1	4.1	0.0	1026.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	185	3.8	3.9	183	19	1310	189	8	14	0.0	
Total			58.0				181.2	0.0																19.7
Mean	23.4	12.6		10.0	18.5	18.0	6.04	0.0	1014.8					204	1.6	4.1								
Anom	+3.7	+2.6	108%	+3.3	+1.9	+1.2	117%																	-1.9

Daily mean 18.0 Pressure, abs highest = 1027.8 on 3
 Anom +3.1 Pressure, abs lowest = 993.3 on 20

Number of days with:
 Air frost = 0 Ground frost = 0 Nil sun = 1
 Snow falling = 0 Snow lying = 0 Thunder = 2
 Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 0

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

Wind estimated throughout

Observations at 0900 GMT for SEPTEMBER 2023

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	56	7	03	04	06	16.9	16.6	98	11.7	1009.7	2	013	21	6	5	7	8	2	/	/	84703	83808	86620				1		
2	68	7	04	06	12	18.6	16.2	86	11.3	1020.1	2	020	03	2	2	7	8	4	/	1	86812	83640					2	/Ci75 COTRA Cu med	
3	56	5	05	04	07	17.2	16.4	95	11.4	1027.6	2	005	10	4	1	1	1	3	0	1	81807	85080					3	COTRA Cu fra 120° Parhelion	
4	45	0	05	04	09	19.5	16.9	85	11.8	1024.0	7	006	05	4	1	0	0	9	0	0							4		
5	58	1	06	06	13	19.8	16.6	82	11.7	1017.5	8	002	05	0	0	1	0	9	8	0							5	Ac cas ElHz lyr SSW	
6	58	0	03	02	05	20.7	16.1	75	11.3	1019.6	0	007	05	0	0	0	0	9	0	0							6	ElHz lyr Sky turbid.	
7	56	2	06	05	11	21.7	18.5	82	13.1	1017.6	8	002	05	0	0	0	0	9	0	1							7	2Ci81 COTRA Cc cas	
8	70	7	22	01	04	23.2	16.3	65	11.4	1017.0	2	004	03	1	1	2	0	9	8	8							8	COTRA Ac cas U/a cont+Parhelion Sky turbid	
9	68	1	10	02	04	23.3	17.3	69	12.2	1016.0	0	001	03	0	0	0	0	9	0	4							9		
10	56	7	06	04	07	23.4	18.7	75	13.3	1015.1	8	010	05	1	1	5	0	9	8	1							10	COTRA Ac cas	
11	84	5	25	05	10	20.3	15.9	76	11.2	1014.2	0	007	01	2	2	1	8	4	0	1							11	1Sc25 1Ci75 COTRA Cu hum	
12	81	8	22	03	06	19.0	15.9	82	11.1	1014.0	2	008	02	2	2	8	8	4	/	/	81810	83640	88656				12	Cu fra/hum	
13	81	6	02	07	13	14.7	11.1	79	8.1	1022.2	2	013	02	2	2	6	8	4	0	1							13	1Ci80 COTRA Cu hum	
14	82	3	25	04	07	16.7	12.5	76	8.9	1021.9	1	002	02	0	0	1	1	4	7	1							14	1Ac57 1Ac65 COTRA Cu hum Ac len	
15	58	1	02	02	05	15.0	14.2	95	10.0	1015.9	7	006	10	4	0	0	0	9	0	1							15	Cld edge NW	
16	61	3	05	05	10	17.1	15.4	90	10.9	1013.5	1	012	02	0	0	1	2	7	2								16	1Ac61 1Ac63 2Ci75 COTRA Cu con NW	
17	61	8	07	09	18	18.8	15.7	82	11.0	1011.3	7	012	02	2	2	8	5	4	/	/	86612	88615					17		
18	68	6	15	05	10	17.2	15.4	89	11.0	999.8	8	012	03	1	1	6	8	3	7	/	85808	83359					18	2Sc30 Cu fra	
19	82	8	23	14	28	16.5	13.6	83	9.7	1005.6	5	008	02	6	2	7	5	4	7	/	87617						19	/Ac57	
20	70	7	21	14	33	18.8	13.0	69	9.4	999.1	7	007	02	2	2	7	5	5	3	/	86625	83630	87362				20		
21	75	1	20	04	07	13.3	11.4	88	8.5	996.4	1	005	02	0	0	1	1	4	0	3							21	1Ci70 1Ci75 Cu fra Cb top NW ElHz lyr	
22	86	1	24	03	06	10.9	10.1	95	7.8	1000.8	2	017	03	0	0	1	8	3	0	2							22	1Sc56 1Ci75 Cu fra	
23	84	1	27	06	11	12.1	9.1	82	7.1	1016.2	2	023	02	0	0	0	0	9	0	2							23		
24	72	8	19	08	16	17.4	14.3	82	10.0	1018.2	4	000	02	2	2	7	5	4	7	/	83615	86640	88362				24		
25	75	3	24	07	13	16.8	13.5	81	9.5	1019.2	2	018	03	0	0	1	1	4	0	1							25	COTRA Cu hum	
26	68	7	20	10	23	18.6	16.4	87	11.5	1015.4	6	004	15	2	2	7	8	4	/	3	85813	86650					26	/Ci68 Cu fra/med jpW	
27	59	7	13	05	12	17.3	15.3	88	10.7	1015.8	7	010	05	2	2	7	5	3	7	/	87608	86366					27		
28	70	8	21	05	12	15.4	11.2	76	8.2	1014.7	1	007	02	2	2	3	0	9	3	7							28	Thick el hz lyr.	
29	84	3	28	08	18	14.8	10.8	77	8.0	1018.5	2	043	02	0	0	1	1	4	0	1							29	COTRA Cu fra El hz lyr	
30	75	3	15	02	06	14.5	11.5	82	8.3	1026.0	0	003	02	1	1	3	0	9	7	1							30	1Ci80 COTRA Ac str vir El hz lyr	

Mean vis = 22.4 km

Mean cloud = 4.5 56%

Mean wind speed = 5.5 kn

Mean gust = 11 kn

Mean TT = 17.7 °C

Mean TdTd = 14.5 °C

Mean RH = 82.4 %

Mean r = 10.3 g/kg

Mean PPP = 1014.8 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.

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.

Wind estimated throughout

Observations at 1500 GMT for SEPTEMBER 2023

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks									
1	84	6	35	03	08	21.6	15.0	66	10.6	1011.1	1	002	03	2	2	2	8	5	0	6	82825	84272	1	1Sc50	3Ci78	COTRA	Cu med	Halo22° part +Parhelion+U/i	
2	82	5	05	06	13	23.2	16.0	64	11.2	1021.6	1	004	02	1	1	4	8	6	0	1	82835	83650	2	2Ci78	Cu med				
3	84	5	36	04	08	25.8	13.3	46	9.3	1026.2	7	012	02	2	2	0	0	9	0	1	85080		3						
4	82	1	07	07	14	29.7	15.8	43	11.0	1019.7	6	022	02	0	0	0	0	9	0	1	81080		4	COTRA					
5	80	0	08	07	14	30.1	16.1	43	11.3	1015.2	7	005	02	0	0	0	0	9	0	0			5	ElHz	lyr				
6	70	5	32	05	15	17.8	10.9	64	8.0	1018.0	2	006	25	8	2	5	8	5	6	0	82828	83656	6	1Ac58	Cu con	jpW-N	vv80k	ex p	
7	75	4	12	02	09	30.3	18.1	48	12.8	1014.8	8	011	03	0	0	0	0	9	0	1	81177	84080	7	COTRA	Parhelion				
8	75	6	21	02	08	29.5	16.0	44	11.2	1015.3	8	013	02	2	2	0	0	9	0	8	81171	86275	8	Sky	turbid	Halo 22° part			
9	73	4	22	04	08	30.5	16.1	42	11.3	1014.5	7	010	03	0	0	1	1	7	0	2	81850	84080	9	COTRA	Cu hum				
10	62	8	18	06	12	22.1	18.5	80	13.2	1014.6	5	009	61	6	2	1	5	6	7	/	81640	88462	10	2Ac59					
11	86	7	25	09	16	23.9	16.2	62	11.4	1012.3	6	009	02	2	2	3	8	5	0	1	82828	87078	11	2Sc56	COTRA	Cu med			
12	65	7	27	03	10	21.3	15.4	69	10.8	1013.1	5	004	25	8	2	7	8	5	7	/	81822	83635	87650	12	/Ac60	Cu med	jpNE, SE&W		
13	84	7	05	03	07	18.9	11.0	60	8.0	1022.0	8	007	02	2	2	7	8	6	/	2	81832	87645	13	/Ci75	COTRA	Cu med			
14	82	6	24	04	09	23.7	11.1	45	8.1	1019.0	7	016	02	1	1	2	4	6	0	8	81840	83080	14	2Sc40	2Cs75	COTRA	Cu hum		
15	82	3	20	05	15	22.9	12.5	52	9.0	1012.1	7	017	03	1	1	3	8	6	0	1	82848		15	1Sc56	1Ci80	Cu med			
16	72	7	36	05	12	24.5	15.7	58	11.1	1012.3	6	004	02	2	2	1	2	6	7	8	81835	83364	85270	16	2As66	2Ci75	COTRA	Cu con	NE Halo 22° part
17	56	7	10	07	14	18.1	17.3	95	12.3	1008.2	6	023	21	6	2	7	7	3	7	/	87706		17	/Ac65					
18	86	2	26	13	31	19.0	11.3	61	8.4	1002.3	2	031	01	8	1	2	8	6	4	0	82830		18	1Sc40	1Ac65	Cu med			
19	80	8	22	10	24	18.5	15.2	81	10.8	1005.0	5	001	20	5	2	7	5	4	2	/	87613		19	/As63					
20	50	8	20	11	25	16.6	15.6	94	11.2	995.9	7	022	63	6	6	7	7	3	2	/	85707	87710	88550	20					
21	65	6	25	03	18	13.4	11.1	86	8.3	994.8	6	012	29	9	8	5	9	5	6	3	85928	83359	21	1Cu35	1Sc50	2Ci70	tl	1452 Rainbow Parhelion	
22	70	6	24	04	20	14.0	11.7	86	8.6	1003.3	3	014	25	8	2	2	9	6	6	1	81930	85360	22	1Cu35	2Sc56	1Ci80	COTRA	jpSE vv70k	ex p
23	84	5	27	05	17	16.1	6.8	54	6.1	1017.6	1	005	02	1	1	5	8	6	4	1	81840	85650	23	1Ac65	1Ci80	Cu hum			
24	83	7	19	12	25	19.4	14.0	71	9.9	1016.3	6	012	02	2	2	6	8	5	0	1	84820	83630	24	1Cc72	2Ci80	COTRA	Cu hum		
25	80	6	22	06	16	21.2	11.2	53	8.2	1019.5	7	002	03	1	1	1	1	6	0	2	81840	86073	25	1Cc70	COTRA	Cu hum	Halo 22° part+	Parhelion	
26	83	3	22	09	21	20.3	13.5	65	9.6	1015.6	5	001	01	1	1	2	1	6	4	1	82832		26	1Ac68	2Ci72	Cu hum	El hz	lyr	
27	84	8	14	07	16	20.0	14.1	69	10.0	1008.5	8	042	21	6	2	1	1	5	8	/	81825	83363	88465	27	1Ac57	Cu hum	Ac cas		
28	80	8	20	07	15	17.7	11.5	67	8.4	1013.6	7	010	02	2	2	2	8	5	7	/	82825	85362	88465	28	1Sc35	Cu hum			
29	83	3	25	07	15	19.6	10.3	55	7.7	1021.9	1	011	02	0	0	2	4	6	0	1	81840		29	2Sc45	1Ci80	Cu hum	El hz	lyr	
30	80	7	19	09	18	18.5	11.3	63	8.2	1023.0	7	017	02	2	2	2	8	6	7	1	81832	85358	30	2Sc56	/Ac63	/Ci75	Cu hum		

Mean vis = 33.4 km
Mean cloud = 5.5 69%
Mean wind speed = 6.2 kn
Mean gust = 15 kn
Mean TT = 21.6 °C
Mean TdTd = 13.8 °C
Mean RH = 62.9 %
Mean r = 9.9 g/kg
Mean PPP = 1013.6 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

Wokingham Sunshine Hourly analysis 2023	Hour	01-Sep	02-Sep	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.32	0.00	0.11	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	1.00	0.68	1.00	0.49	0.99	0.79	0.00	0.00	0.00	0.72	0.67	0.42
	7	0.00	0.31	0.57	0.23	1.00	1.00	1.00	0.60	1.00	1.00	0.00	0.00	0.02	1.00	1.00	1.00
	8	0.00	0.27	1.00	1.00	1.00	1.00	1.00	0.60	1.00	0.97	0.58	0.00	0.48	1.00	1.00	1.00
	9	0.21	0.07	1.00	1.00	1.00	1.00	1.00	0.51	1.00	0.50	1.00	0.00	0.57	1.00	1.00	1.00
	10	0.00	0.34	1.00	1.00	1.00	1.00	1.00	0.86	1.00	0.00	0.67	0.00	0.77	1.00	1.00	1.00
	11	0.00	0.39	1.00	1.00	1.00	1.00	1.00	0.97	1.00	0.00	0.13	0.00	0.06	1.00	1.00	0.99
	12	0.00	0.29	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.00	0.46	0.00	0.00	1.00	0.46	0.00
	13	0.28	0.53	1.00	1.00	1.00	1.00	1.00	0.83	1.00	0.00	0.98	0.00	0.00	1.00	0.47	0.47
	14	0.61	0.40	1.00	1.00	1.00	0.97	1.00	0.73	1.00	0.00	0.60	0.11	0.02	1.00	0.28	0.35
	15	0.54	0.68	1.00	1.00	1.00	1.00	1.00	0.32	0.81	0.00	0.50	0.00	0.46	1.00	0.31	0.00
	16	0.00	0.60	1.00	1.00	1.00	0.60	0.81	0.00	1.00	0.50	0.18	0.00	0.00	1.00	0.79	0.00
	17	0.00	0.94	1.00	1.00	1.00	0.39	0.37	0.00	1.00	0.81	0.12	0.00	0.51	0.92	0.51	0.00
	18	0.00	0.29	0.68	0.61	0.28	0.00	0.00	0.00	0.21	0.30	0.00	0.00	0.15	0.00	0.00	0.00
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		1.63	5.14	11.26	10.84	12.61	10.63	11.29	6.89	12.00	4.94	5.23	0.11	3.04	11.64	8.49	6.24

Hour	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep	Mean
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
6	0.00	0.62	0.00	0.00	0.15	0.63	0.64	0.00	0.53	0.00	0.00	0.00	0.00	0.01	0.31
7	0.08	0.97	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.19	0.00	0.00	0.56	1.00	0.55
8	0.03	0.34	0.00	0.06	1.00	1.00	1.00	0.00	0.99	0.21	0.00	0.00	1.00	1.00	0.62
9	0.00	0.00	0.00	0.00	0.97	1.00	1.00	0.00	1.00	0.00	0.18	0.00	1.00	0.51	0.58
10	0.00	0.02	0.00	0.00	0.70	0.98	1.00	0.09	1.00	0.30	0.21	0.14	1.00	0.37	0.58
11	0.00	0.05	0.00	0.00	0.15	0.50	1.00	0.15	1.00	0.72	0.00	0.05	1.00	0.45	0.52
12	0.00	0.11	0.00	0.00	0.28	0.25	0.66	0.21	1.00	1.00	0.03	0.20	1.00	0.43	0.48
13	0.00	0.47	0.00	0.00	0.96	0.80	0.39	0.02	1.00	0.99	0.06	0.00	0.97	0.15	0.55
14	0.00	0.89	0.00	0.00	0.14	0.04	0.31	0.07	1.00	0.65	0.07	0.00	1.00	0.02	0.47
15	0.06	0.90	0.00	0.00	0.31	0.80	0.62	0.03	0.95	0.64	0.00	0.00	0.33	0.13	0.48
16	0.76	0.73	0.00	0.00	0.80	0.35	0.54	0.02	0.94	0.15	0.04	0.00	0.95	0.00	0.46
17	0.17	0.92	0.00	0.00	0.00	0.06	0.19	0.00	0.01	0.01	0.00	0.00	0.34	0.06	0.34
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	0.08
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	1.11	6.01	0.00	0.06	6.44	7.41	8.34	0.58	10.43	4.86	0.59	0.39	9.16	4.13	181.51

SEPTEMBER 2023	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	16.73	21.7	1456	13.3	2341	91.0	98.9	830	63.9	1503	15.1	10.7	12.4	919	9.3	2341	1010.95	1016.0	2341	1007.9	447	4.5
2	18.25	24.4	1524	13.2	5	84.0	98.6	117	57.2	1625	15.2	10.7	12.0	1523	9.2	12	1020.79	1026.4	2349	1015.6	108	0
3	17.95	26.3	1525	11.3	426	81.5	99.5	715	46.3	1458	14.2	9.9	11.8	1331	8.0	435	1026.54	1027.8	957	1024.9	1825	0
4	20.29	29.9	1428	13.7	258	73.3	99.0	643	36.3	1823	14.4	10.1	12.5	1509	6.1	1823	1022.00	1026.3	1	1018.4	1732	0
5	20.43	30.2	1503	12.2	511	73.5	98.4	536	38.5	1552	14.7	10.4	12.9	1301	8.6	511	1016.97	1019.5	6	1014.9	1516	0
6	21.01	29.5	1536	13.9	434	78.7	96.6	608	47.8	1412	16.7	11.8	14.6	1206	9.3	434	1018.49	1019.8	841	1017.5	1540	0
7	22.62	31.0	1324	15.9	517	74.9	99.1	619	37.2	1326	17.2	12.1	14.0	1138	10.2	1326	1016.61	1018.8	39	1014.5	1621	0
8	22.48	29.9	1309	15.5	515	70.9	96.8	551	39.3	1319	16.3	11.4	13.2	1053	9.8	1319	1016.22	1017.1	851	1015.1	1526	0
9	22.87	32.0	1410	15.2	536	72.0	96.1	538	37.3	1428	16.7	11.8	14.0	1654	10.2	1020	1015.52	1016.3	744	1014.2	1620	0
10	20.04	25.3	1049	16.2	504	88.3	98.5	526	67.5	1051	17.9	12.7	15.5	1404	11.1	504	1014.69	1016.2	248	1013.1	1653	1.3
11	20.38	25.2	1252	17.1	400	79.4	96.3	429	56.2	1304	16.5	11.6	12.4	1404	10.4	1046	1013.28	1014.4	847	1012.1	1546	0
12	17.88	22.4	1341	13.2	2355	86.0	95.4	1829	64.2	1342	15.4	10.8	11.8	1324	8.2	2359	1014.13	1018.3	2357	1012.6	449	0.3
13	14.84	19.6	1527	10.4	2334	80.0	97.5	2357	57.0	1525	11.2	8.2	8.9	1017	7.5	1112	1021.48	1023.0	2241	1018.0	4	0
14	16.19	24.1	1427	9.9	110	76.8	98.1	710	43.3	1505	11.4	8.3	9.3	1315	7.3	110	1020.29	1022.5	1	1018.0	2352	0
15	15.96	25.1	1400	8.5	538	80.9	99.4	818	45.2	1400	12.1	8.8	10.4	1116	6.8	538	1014.45	1018.2	1	1011.5	1608	0
16	17.55	25.7	1352	10.1	608	79.5	99.2	709	55.5	1140	13.6	9.7	12.0	1127	7.6	608	1013.00	1014.9	2251	1011.9	432	0
17	17.40	20.6	1106	14.8	151	90.3	98.4	2339	74.0	1116	15.8	11.2	12.6	1533	8.9	1	1009.64	1014.6	17	1002.8	2322	7
18	15.65	19.3	1441	12.0	2141	82.9	97.9	19	54.5	1637	12.5	9.2	12.0	1201	6.5	1701	1002.70	1008.3	2346	998.6	1041	2.6
19	16.25	18.6	1510	12.4	6	83.1	89.7	1955	76.0	1019	13.4	9.6	11.0	1510	7.5	143	1005.62	1008.4	55	1003.6	2244	0.1
20	16.44	19.2	845	11.9	2357	85.5	96.7	2030	67.9	850	13.9	10.0	11.4	1859	8.4	2338	997.91	1004.0	9	993.3	1918	35.9
21	12.21	18.4	1342	8.3	538	89.8	99.1	706	58.6	1335	10.4	8.0	9.2	1545	6.8	538	995.74	996.8	2358	994.2	1614	2.9
22	11.46	18.3	1344	7.5	458	87.3	99.5	524	57.2	1315	9.2	7.3	8.8	1510	6.5	457	1002.37	1010.1	2359	996.6	7	1.3
23	11.79	18.5	1309	6.5	605	76.9	97.5	653	46.6	1215	7.4	6.4	7.4	1034	5.5	1107	1016.15	1019.9	2106	1009.9	2	0.1
24	16.86	20.7	1433	11.1	0	77.0	86.9	611	61.9	1333	12.7	9.1	10.4	1227	6.8	0	1016.95	1019.4	9	1014.2	2251	0
25	16.89	21.9	1400	11.7	2358	79.1	96.8	2350	48.4	1417	12.9	9.2	10.9	303	7.5	1612	1018.69	1020.9	1959	1014.6	0	0.2
26	16.04	22.2	1358	10.3	341	85.4	99.0	535	54.5	1253	13.3	9.5	11.6	846	7.6	341	1016.81	1019.8	8	1014.8	1254	0.6
27	16.81	21.1	1309	12.7	627	83.2	98.3	651	64.3	1336	13.8	9.8	11.1	1611	8.7	2210	1012.92	1019.0	116	1007.0	1800	0.1
28	16.39	20.4	1246	13.9	657	77.3	95.5	2123	55.9	1248	12.3	8.9	11.5	2147	7.8	755	1012.56	1015.4	958	1009.0	2355	0.5
29	15.55	19.8	1337	10.8	2313	79.1	97.1	314	50.5	1404	11.6	8.5	11.5	153	7.0	1158	1018.86	1026.0	2344	1008.4	155	6.5
30	14.67	19.6	1229	10.0	413	79.5	97.3	711	58.1	1315	10.9	8.0	9.4	2228	7.2	1558	1024.15	1026.5	749	1021.4	2358	0
Total																						63.9
Mean	17.33	23.36		12.12		80.9	97.24		54.04		13.62	9.79	11.55		8.07		1014.22	1017.48		1010.95		
Max	22.87	32.04		17.05		91.0	99.50		76.00		17.94	12.74	15.51		11.14		1026.54	1027.83		1024.88		
Min	11.46	18.33		6.53		70.9	86.90		36.26		7.41	6.37	7.41		5.47		995.74	996.82		993.26		

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

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 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.