

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 2024

Temperature (°C)	Anomaly	Rank in the past 143 years
Mean maximum	19.3	-0.4 57th highest
Mean minimum	10.4	+0.4 24th highest
Daily mean	14.9	0.0 35th highest
Highest maximum	30.2	on 1st Lowest maximum 13.0 on 27th
Highest minimum	17.7	on 2nd Lowest minimum 1.7 on 13th
Mean grass minimum	8.0	+1.3 Lowest grass minimum -1.5 on 13th
Mean earth @30 cm	16.8	+0.2 Earth @100 cm 17.0 +0.2
Frost duration (hrs)	0.0	Rain duration (hrs) 70.0
Rainfall total (mm)	146.0	272 % 2nd highest
Highest daily fall	30.1	on 26th Highest rate mm/hr 167 on 26th
Number of: Dry days (<0.2mm)	10	Wet days (>0.9mm) 15 days ≥5mm 8
Sunshine total (hrs) 125.5	Daily mean 4.18	81% Sunniest day 11.7 on 16th
N° days with: Air frost 0	Ground frost 3	Snow falling 0 Snow lying 0
Thunder 6	Hail ≥5mm 0	Small hail/ice 1 Fog @09 0 Nil sun 4
Pressure MSL: Mean @09 GMT, mbar 1014.6	-2.1	Highest 1032.8 on 17th Lowest 982.1 on 26th
Relative humidity: Mean (%) 84.6	Lowest 39 on 13th	Water vapour (g/kg), mean at 09 and 15 GMT 9.1, 8.7
Overall mean wind speed (mph) 5.6	Windiest day 10.0 on 30th	Max gust 38 on 10th
Wind direction (days) N 1 NE 8 E 2 SE 1 S 2 SW 6 W 8 NW 2		
Least windy day (mph) 1.4 on 7th	Calm; less than 0.5 mph (minutes)	n/a

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

Notes:

Dull and Very Wet with Near Average Temperature.

Temperature: The mean this September, while exactly equal to the current 30 year average, is 0.7° above the long-term median. The anomalies for mean maximum and mean minimum balance out, being +0.4° and -0.4° respectively. The highest max is 5.6° above the median and 7th highest in 121 years. The lowest max is 0.9° below its median. The highest min is 2.5° above the median and ranks 4th highest in 112 years while the lowest min is 1.2° below its median. The mean grass min is 2.0° lower than last September's record high value. The 13th saw the first ground frost of the season after 140 frost-free days. Ground frost is not unusual in this month, only 17 Septembers in the past 45 years have been ground frost free. Earth temperature at both 30cm and 1 m depth were slightly above average. Anomalies for daily max ranged from +9.4° on the 1st to -5.0 ° on the 27th, the ratio of +ve to -ve anomalies being 17:13. For daily min, anomalies ranged from +7.2° on the 2nd to -8.2° on the 13th, with the ratio of +ve to -ve being 18:12. **Rainfall:** This has been an exceptionally wet September with 2.7 times the average. It is the 2nd wettest after 1918 here in the past 143 years, and this September's total is just 7.2 mm below that record. In more recent years, 1995 had a total closest to this September's, being 1.8 mm less, next was in 2016 with 47.7 mm less. What is somewhat surprising in this September's figures is that the period 8th to 20th was relatively dry, containing 7 of the month's 10 dry days, and a 13 day total of 5.4 mm. Compare this with the 6 day total to the 26th of 83.1 mm, and the 4 days to the 7th with 42.1mm. The number of dry days is equal lowest with 1999 in the past 49 years, and the number of days with =>10mm, 6, is equal highest with 1976 in the same period. Thunder was heard on 6 days compared with a total of 6 days over the previous 7 Septembers, and it is the most for the month since 1976, which had 7. Rainfall rate exceeded the violent threshold (50 mm/hr) on 4 days, with over 100 mm/hr on the 5th and 26th, reaching 167 mm/hr on the 26th at 1408 GMT. **Sunshine:** This has been a dull September with only 81% of the average sunshine, and duller since 2014. The month got off to a promising start with 63% of the maximum sunshine on the 1st, but the following 9 days were very poor, producing a total of only 10.7 hours, a mean of 1.19 hours per day, and nil sun for the three days to the 7th. A switch to the other extreme occurred on the 11th with a run of 9 days having over 50 % of the maximum, and 3 over 90 %, giving a total of 81.0 hours, 65% of the month's total. After the 19th daily amounts were dismal again, only 1 day having over 50% of the maximum and 6 having <10%. Overall there were 15 days with <3 hours, and 11 with =>6 hours. **Wind:** The overall mean speed this September is close to average, as is the month's highest gust, but the mean speed of 10.0 mph on the windiest day is 1.1 mph below average. Daily mean speeds were mainly light until the 8th, moderate or fresh until the 11th, mainly moderate until the 20th, mostly light until the 25th then moderate, increasing fresh on the 30th. Daily mean directions were between N and E on the 1st, 5th, 7th and 16th to 22nd, between E and S on 25th and 29th, between W and N on the 4th, 9th, 12th, 13th, 27th and 28th, otherwise between S and W. **Pressure:** The month's lowest pressure is the lowest for any September since 1995, and 2nd lowest in the past 49 years. **Humidity:** The overall mean relative humidity is 5.3 % above average and highest for the month in the past 27 years.

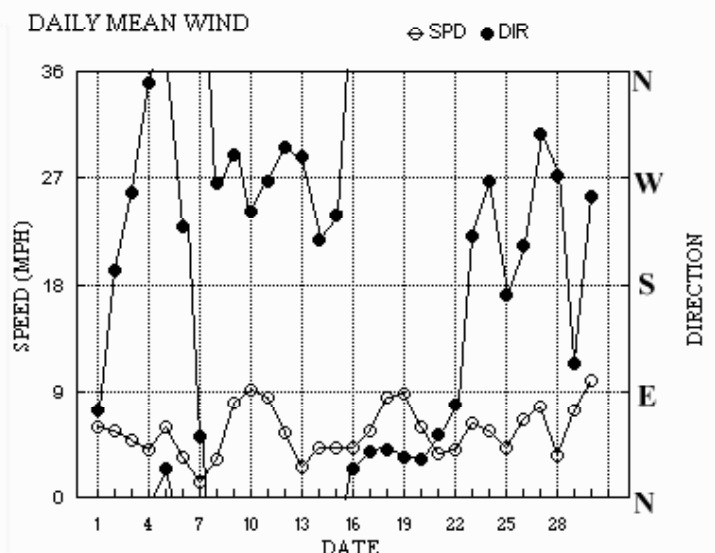
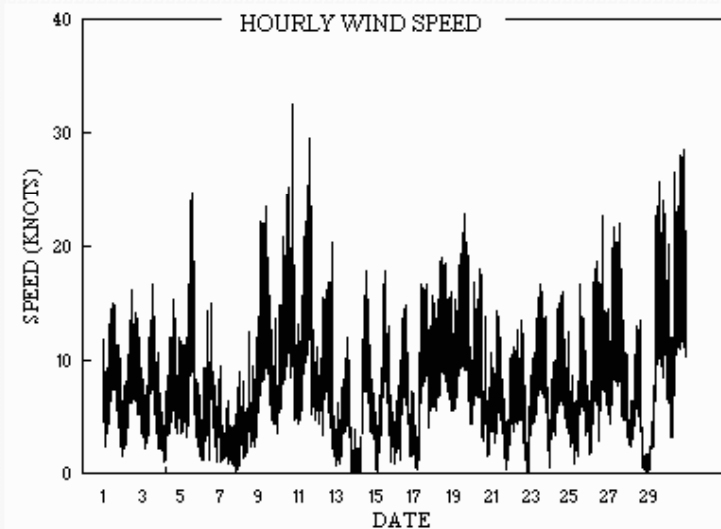
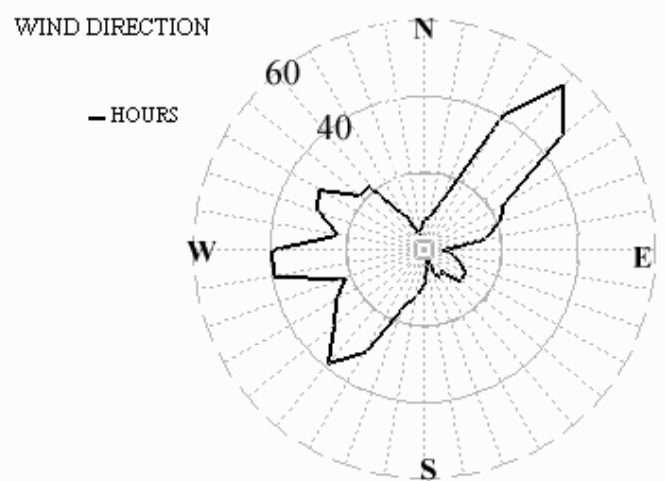
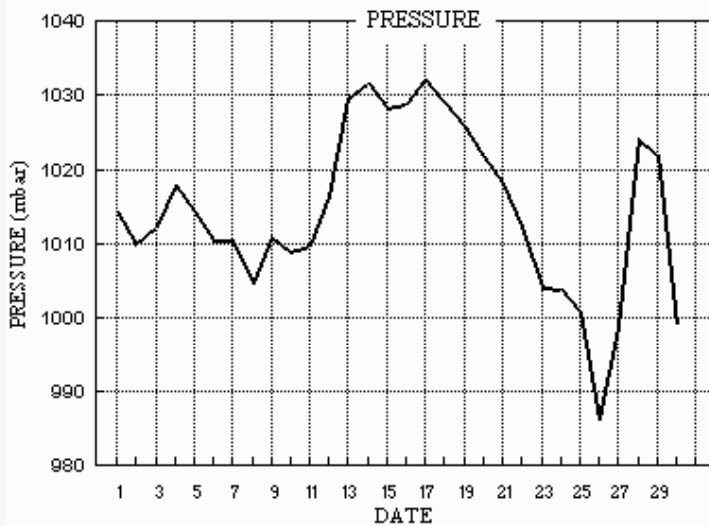
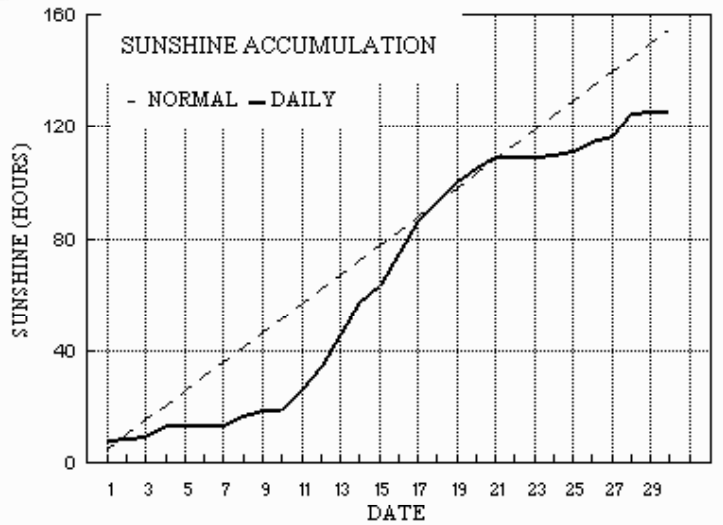
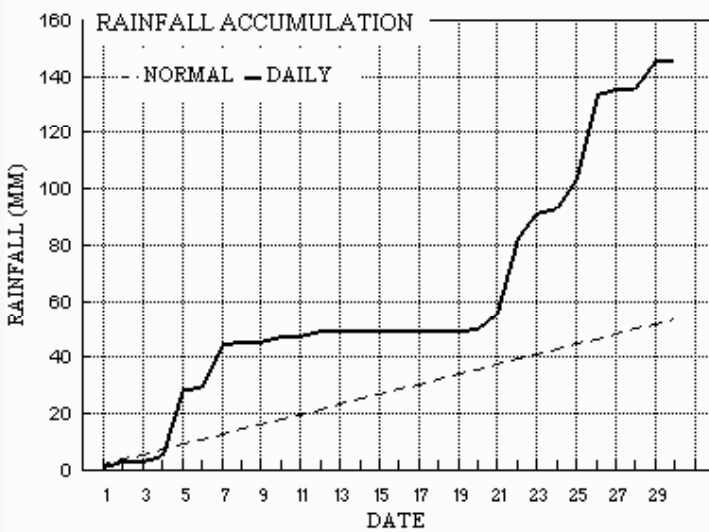
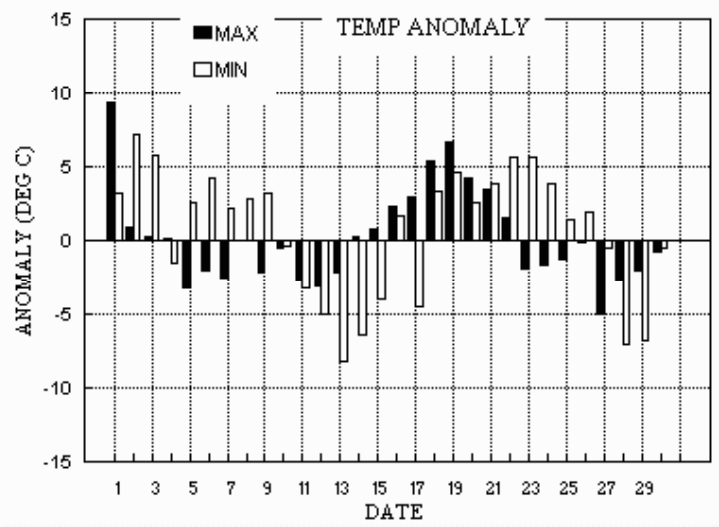
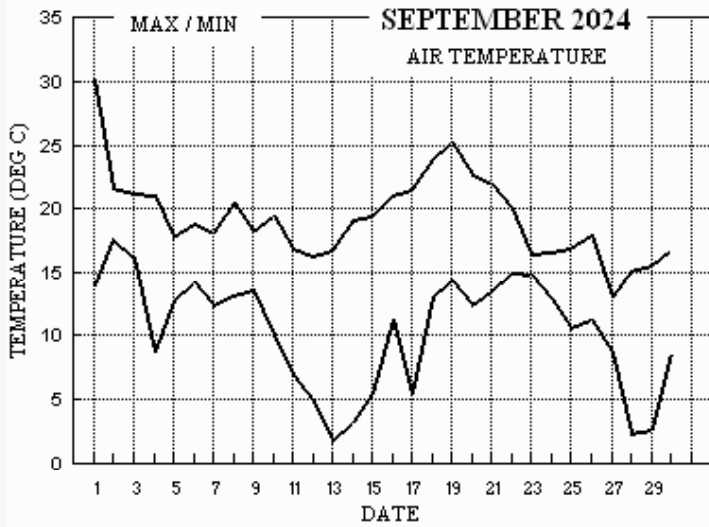
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
-1.2°	+2.3°	266%	37%	+2.1°	-1.2°	16%	166%	-1.6°	+0.4°	534%	39%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for September 2024



Daily meteorological data.

Emmbrook, WOKINGHAM, Berkshire.

Month: SEPTEMBER 2024

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	30.2	14.0	1.3	11.0	17.8	17.7	8.6	0.0	1014.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	74	3.9	5.2	93 15	1155 75	8 11	11 0.5	
2	21.7	17.7	1.6	14.5	18.9	17.7	0.1	0.0	1010.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	192	4.5	4.9	217 16	1235 190	7 08	1.0	
3	21.2	16.1	tr	15.3	18.9	17.8	0.8	0.0	1012.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	257	3.2	4.2	297 17	1245 293	8 13	0.0	
4	21.1	8.7	2.5	4.9	18.6	17.8	4.5	0.0	1017.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	350	2.6	3.5	330 15	1420 329	6 15	2.9	
5	17.8	12.7	23.6	10.3	18.4	17.9	0.0	0.0	1014.3	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	25	5.0	5.2	34 25	1305 33	10 15	7.7	
6	18.8	14.3	0.6	14.7	18.2	17.8	0.0	0.0	1010.5	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	229	2.3	3.0	214 15	1410 213	7 13	1.6	
7	18.1	12.5	15.4	9.9	18.0	17.7	0.0	0.0	1010.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	52	0.4	1.2	170 10	0200 34	3 11	1.8	
8	20.5	13.2	0.6	10.6	18.0	17.7	2.8	0.0	1004.6	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	265	0.3	2.9	293 14	2350 298	5 23	1.4	
9	18.2	13.7	0.0	12.2	18.2	17.6	2.1	0.0	1010.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	290	6.7	7.0	304 24	0940 306	11 10	0.0	
10	19.5	10.1	2.0	6.4	17.6	17.6	0.4	0.0	1008.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	242	7.3	7.9	264 33	1810 254	13 12	1.7	
11	16.9	7.0	0.3	2.2	17.0	17.5	7.3	0.0	1009.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	267	7.3	7.5	280 30	1505 280	12 15	0.4	
12	16.3	4.9	1.8	0.5	16.3	17.4	7.7	0.0	1016.2	0 0 0 0	0 0 0 0	0 0 1 0	0 0 0 0	296	3.9	4.8	38 20	1805 299	8 13	0.9	
13	16.8	1.7	0.0	-1.5	15.6	17.2	11.4	0.0	1029.6	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	288	2.2	2.3	280 12	1305 290	5 12	0.0	
14	19.1	3.2	0.0	0.9	15.2	16.9	11.5	0.0	1031.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	217	3.6	3.7	200 18	1315 230	9 11	0.0	
15	19.5	5.5	0.2	2.8	15.3	16.7	6.2	0.0	1028.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	238	3.5	3.7	252 18	1320 237	9 11	0.5	
16	21.1	11.2	0.0	7.7	15.8	16.5	11.7	0.0	1028.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	25	3.1	3.6	36 15	1320 40	7 11	0.0	
17	21.5	5.4	0.0	1.9	15.8	16.4	11.3	0.0	1032.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	39	4.9	4.9	63 17	0930 40	9 15	0.0	
18	23.9	13.1	0.0	9.3	16.0	16.4	6.5	0.0	1029.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	40	7.4	7.4	52 19	1030 40	9 14	0.0	
19	25.2	14.4	0.0	11.7	16.6	16.3	7.4	0.0	1025.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	35	7.6	7.7	45 23	1445 35	10 10	0.0	
20	22.7	12.4	0.5	9.2	17.0	16.4	4.9	0.0	1021.8	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	33	4.6	5.2	29 18	0955 29	9 09	0.3	
21	21.9	13.5	5.5	9.6	16.9	16.5	4.1	0.0	1018.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	54	3.1	3.3	58 14	0750 63	6 08	3.5	
22	20.0	15.0	26.9	12.4	17.1	16.5	0.3	0.0	1012.3	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	79	2.8	3.5	107 14	1335 101	6 13	10.7	
23	16.4	14.8	8.8	14.6	17.2	16.6	0.0	0.0	1004.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	220	5.3	5.5	218 17	1325 216	9 13	9.6	
24	16.6	12.9	1.4	13.3	17.0	16.6	0.6	0.0	1003.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	267	4.4	4.9	268 16	1505 256	7 14	1.7	
25	16.9	10.7	10.4	9.5	16.8	16.7	1.1	0.0	1000.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	172	2.4	3.7	171 17	1455 121	7 16	4.6	
26	17.9	11.2	30.1	8.8	16.5	16.6	3.2	0.0	986.3	0 0 0 0	0 0 0 0	1 0 0 0	0 0 0 0	213	4.9	5.8	249 23	1655 233	9 18	7.3	
27	13.0	8.8	2.2	8.4	16.1	16.6	2.1	0.0	998.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	307	6.3	6.8	326 22	1320 331	10 18	1.9	
28	15.2	2.4	0.0	-1.1	15.0	16.5	8.2	0.0	1024.2	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	272	2.9	3.2	285 14	1506 281	7 15	0.0	
29	15.6	2.7	10.2	-0.1	14.4	16.2	0.6	0.0	1022.0	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	114	6.3	6.5	127 26	1620 121	12 16	9.7	
30	16.7	8.6	0.1	9.6	14.3	16.0	0.1	0.0	999.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	254	5.7	8.7	267 29	2151 254	13 18	0.3	
Total			146.0				125.5	0.0													70.0
Mean	19.3	10.4		8.0	16.8	17.0	4.18	0.0	1014.6					293	1.0	4.9					
Anom	-0.4	+0.4	272%	+1.3	+0.2	+0.2	81%														-2.1

Daily mean 14.9 Pressure, abs highest = 1032.8 on 17
 Anom -0.0 Pressure, abs lowest = 982.1 on 26

Number of days with:
 Air frost = 0 Ground frost = 3 Nil sun = 4
 Snow falling = 0 Snow lying = 0 Thunder = 6
 Hail=>5mm = 0 Hail<5mm or ice = 1 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.

Observations at 0900 GMT for SEPTEMBER 2024

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChs	Date	Remarks
1	63	7	05	05	10	19.8	16.1	79	11.3	1014.4	8	012	01	2	2	1	8	4	3	1	81815	87078			1	Sc35 1Ac62 COTRA Cu fra Wind est until further notice
2	60	8	19	08	13	19.1	17.9	93	12.8	1010.0	3	008	60	6	2	8	5	2	/	/	87705	88612			2	
3	75	7	21	05	08	18.5	16.7	89	11.7	1012.3	2	010	03	2	2	7	8	3	/	/	82809	86615			3	/Sc30 Cu fra/con top W
4	84	7	36	04	10	15.6	11.8	78	8.5	1017.8	2	005	03	1	1	5	8	4	3	/	81815	85645	87357		4	2Sc25 Cu hum
5	56	8	36	05	11	14.2	13.4	96	9.5	1014.3	8	014	63	6	2	7	7	2	2	/	83705	87707	88530		5	
6	30	8	32	06	14	17.2	16.9	98	11.9	1010.5	0	002	10	6	2	7	7	1	7	/	87702	87609			6	/Ac62
7	12	8	09	03	05	15.0	14.8	99	10.5	1010.5	1	011	28	4	2	8	6	0	/	/	88701				7	
8	62	6	13	03	05	16.7	16.2	97	11.5	1004.6	3	003	03	1	1	4	2	3	7	1	84808	83365			8	1Cu35 1Ci75 Cu con
9	75	7	31	10	18	14.5	10.3	76	7.8	1010.9	2	022	01	2	2	7	5	4	/	/	87618	87625			9	
10	62	8	23	11	18	14.7	12.9	89	9.3	1008.8	7	016	02	2	2	8	6	3	/	/	88708				10	Absent vv&cld est
11	82	1	27	10	19	12.3	7.0	70	6.2	1009.8	0	000	03	0	0	1	1	5	0	0	81825				11	Absent vv&cld est
12	86	1	32	07	15	11.9	6.6	70	6.0	1016.2	2	010	03	0	0	1	8	5	0	0	81825				12	1Sc56
13	81	3	29	04	08	9.1	6.5	84	5.9	1029.6	2	016	02	0	0	3	0	9	3	1	83370				13	1Ci78 COTRA Parhelion 120°
14	82	5	22	04	07	13.0	8.1	72	6.6	1031.7	1	004	02	1	1	0	0	9	0	1	81075	85081			14	COTRA
15	81	3	23	05	09	14.1	11.3	83	8.1	1028.3	5	001	03	1	1	1	4	4	1		81815	83080			15	1Ac65 COTRA Cu hum
16	88	6	04	05	10	14.3	10.5	78	7.8	1028.9	1	010	03	2	2	1	1	5	0	1	81820	86081			16	COTRA Cu hum Parhelion
17	88	5	04	07	12	14.4	10.4	77	7.7	1032.1	8	007	02	1	1	0	0	9	0	1	85081				17	COTRA
18	65	7	04	09	18	17.0	13.5	80	9.4	1029.1	0	001	02	1	1	7	5	4	5	/	82616	87618			18	
19	57	7	04	09	18	17.7	15.0	84	10.4	1025.7	0	002	05	2	2	7	5	4	/	1	87613				19	/Ci78
20	57	8	03	08	14	16.7	14.2	85	9.9	1021.8	8	002	05	2	2	8	5	4	/	/	83713	88622			20	
21	45	7	08	06	14	16.5	15.0	91	10.5	1018.1	2	001	05	2	2	7	6	3	7	/	87707				21	/Ac62
22	40	8	06	05	13	16.0	15.7	98	11.0	1012.3	6	004	10	6	2	8	7	2	/	/	87704	88705			22	
23	58	8	23	06	14	15.4	15.1	98	10.7	1004.1	5	002	61	6	6	7	7	2	2	/	87705	88556			23	
24	62	8	31	05	14	13.1	12.0	93	8.8	1003.8	3	015	21	6	2	8	8	3	/	/	82807	83615	88625		24	Cu fra/hum
25	65	8	09	03	06	11.2	10.9	98	8.2	1000.8	6	010	02	6	2	8	6	2	/	/	88704				25	
26	75	5	20	08	18	15.9	13.6	86	9.9	986.3	1	009	15	1	1	4	2	4	3	2	84813				26	2Ac65 1Ci68 Cu med jpW
27	56	8	32	11	23	9.2	8.0	92	6.7	998.7	2	045	63	6	6	7	7	4	2	/	87712	88540			27	
28	86	1	30	06	12	9.3	6.6	83	6.0	1024.2	2	023	02	0	0	1	5	6	0	0	81645				28	
29	83	8	09	06	10	8.6	8.0	96	6.6	1022.0	8	019	03	2	2	1	5	6	7	7	81635	87365	88275		29	
30	58	8	25	06	12	15.6	15.1	97	10.8	999.1	3	013	20	5	2	8	5	2	/	/	87705	88610			30	

Mean vis = 24.1 km

Mean cloud = 6.3 79%

Mean wind speed = 6.3 kn

Mean gust = 13 kn

Mean TT = 14.6 °C

Mean TdTd = 12.3 °C

Mean RH = 87.0 %

Mean r = 9.1 g/kg

Mean PPP = 1014.6 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 SEPTEMBER 2024

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ci	NCh	shs	NCh	shs	Date	Remarks
1	63	5	08	06	15	29.7	18.5	51	13.2	1010.3	6	018	02	1	1	1	8	6	3	1	81835	85078		1	1Sc50 1Ac60 COTRA Cu hum Sky turbid Wind est until firtl	
2	82	8	21	07	13	21.5	15.6	69	11.0	1010.2	7	002	02	6	2	5	5	5	7	/	85625	85361	88465	2		
3	81	7	31	07	14	19.4	13.6	69	9.6	1013.7	1	010	02	2	2	7	8	5	3	/	84825	85630		3	/Sc50 /Ac58 Cu med	
4	84	7	35	05	15	19.6	8.3	48	6.8	1016.7	6	006	02	2	2	2	2	6	3	/	83848	86358		4	Cu med	
5	60	8	04	11	21	17.3	16.8	97	11.9	1009.1	7	017	92	9	6	7	7	2	2	/	83705	87708	88550	5		
6	65	8	22	05	15	15.5	15.0	97	10.6	1010.0	8	001	21	6	5	8	5	2	/	/	84703	88612		6		
7	75	8	36	02	04	17.8	15.6	87	11.0	1009.2	7	008	21	6	2	7	5	7	2	/	87656	88459		7		
8	70	5	12	03	06	18.1	14.8	81	10.5	1002.7	7	003	25	9	8	1	9	5	6	3	81920	84070		8	1Cu30 2Ac62 jp all quads Rainbow	
9	80	6	30	06	14	17.3	8.2	55	6.7	1013.1	0	004	01	2	2	6	5	5	/	/	85628	84635		9	Absent vv&cld est	
10	62	8	25	10	22	16.6	12.0	74	8.7	1007.0	7	007	60	6	2	7	5	6	2	/	87630	88556		10	Absent vv&cld est	
11	62	6	28	10	22	15.8	6.0	52	5.8	1009.5	7	004	15	8	1	4	9	6	6	3	81930	82840		11	2Sc50 1Ac60 1Ci68 jpN Absent vv&cld est	
12	62	7	34	09	17	11.3	8.2	81	6.7	1017.8	3	015	25	8	1	2	9	5	6	3	81925	81835	86068	12	1Sc50 1Ac58 jpW vv80k ex p	
13	88	3	31	06	11	16.3	4.0	44	5.0	1029.5	6	002	02	0	0	2	4	7	3	1	81850	83080		13	2Sc50 1Ac68 COTRA Cu hum	
14	86	6	23	07	14	18.5	9.0	54	7.0	1029.4	7	015	02	1	1	1	4	6	0	1	81640	86081		14	COTRA	
15	84	8	25	07	12	17.8	10.7	63	7.9	1025.7	7	010	14	2	2	8	0	9	7	/	82360	86363	88468	15	jpE	
16	88	5	04	06	12	20.8	8.1	44	6.6	1028.9	8	005	02	2	2	0	0	9	0	1	85081			16	COTRA	
17	86	2	04	10	16	20.7	11.1	54	8.0	1029.4	7	016	02	0	0	1	4	6	0	1	81640			17	2Ci80 COTRA	
18	72	2	04	10	19	23.7	14.7	57	10.2	1025.8	7	020	03	1	1	1	1	6	0	9	81837			18	1Ci72 1Cc74 Cu hum Cc flo vir	
19	64	2	05	10	23	24.8	14.9	54	10.4	1022.5	7	017	03	0	0	2	2	6	0	0	82845			19	Cu med Crepuscular rays	
20	65	2	35	02	07	21.9	13.5	59	9.6	1018.6	7	020	01	1	1	1	8	6	4	0	81840			20	1Sc56 1Ac63 Cu con	
21	72	2	06	04	07	21.3	17.1	77	12.1	1015.6	7	017	01	1	1	1	2	5	4	0	81825			21	1Cu45 1Ac57 Cu fra Cu con N	
22	62	7	14	03	12	19.0	16.0	83	11.3	1009.5	7	014	15	6	2	7	8	4	7	1	85815	84630		22	/Ac62 /Ci72 Cu med/con jpW	
23	61	7	22	09	16	15.6	14.1	91	10.1	1003.5	7	004	60	6	2	2	7	3	2	/	82809	87557		23	Cu fra/hum Ns edge SE	
24	80	7	27	08	16	16.1	8.8	62	7.1	1004.5	7	004	02	2	2	7	8	5	/	/	81825	83630	87640	24	Cu hum	
25	75	7	18	07	17	16.4	11.1	71	8.3	996.1	8	027	15	8	2	7	8	5	/	1	81820	85628	86650	25	/Ci75 Cu med jpW vv50k ex p	
26	80	7	26	05	22	13.6	13.1	97	9.6	984.8	5	008	29	9	8	4	8	2	7	3	83705	86363		26	1Cu15 1Sc50 2Ns58 /Ci70 Cu med jpN Cld edge S	
27	86	6	34	12	24	12.8	6.4	65	6.0	1007.5	2	041	02	8	2	2	8	6	0	1	81830	85078		27	2Sc45 1Ci70 COTRA Cu med	
28	86	5	31	06	13	13.2	5.9	61	5.7	1025.4	2	003	02	2	2	5	8	6	0	1	81835	85645		28	1Ci75 Cu med	
29	82	7	14	10	25	13.7	6.8	63	6.1	1015.8	8	037	02	2	2	3	2	6	7	/	83832	87362		29	Cu med Ac vir	
30	75	7	26	10	23	14.6	11.2	80	8.3	1003.2	2	009	60	6	2	7	5	4	/	/	86618	87625		30	vv50k NW	

Mean vis = 31.7 km

Mean cloud = 5.8 73%

Mean wind speed = 7.1 kn

Mean gust = 16 kn

Mean TT = 18.0 °C

Mean TdTd = 11.6 °C

Mean RH = 68.0 %

Mean r = 8.7 g/kg

Mean PPP = 1013.5 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

r = Humidity mixing ratio at 1.2 m, g/kg

PPP = Air pressure reduced to sea level, mbar

a = Characteristic of pressure tendency (Code FM12-0200)

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)- covers past 3 hours.

Nh = Amount of low cloud present, oktas

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

h = Height of low cloud (Code FM12-1600)

Cm = Type of medium cloud (Code FM12-0515)

Ch = Type of high cloud (Code FM12-0509)

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Wokingham Sunshine Hourly analysis 2024	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	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	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.13	0.01	0.00	0.00	0.00
6	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.10	0.00	0.00	1.00	0.89	0.81	0.85	0.76	0.82	
7	0.29	0.00	0.00	0.56	0.00	0.00	0.00	0.03	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	
8	0.97	0.00	0.00	0.21	0.00	0.00	0.00	0.55	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	
9	1.00	0.00	0.18	0.05	0.00	0.00	0.00	0.21	0.00	0.00	0.35	0.95	1.00	1.00	0.99	0.98	
10	0.99	0.00	0.15	0.66	0.00	0.00	0.00	0.41	0.00	0.00	0.14	0.63	1.00	1.00	0.95	0.84	
11	1.00	0.00	0.10	0.94	0.00	0.00	0.00	0.35	0.00	0.03	0.40	0.42	0.87	1.00	0.45	0.88	
12	1.00	0.00	0.07	0.80	0.00	0.00	0.00	0.00	0.00	0.40	0.75	0.61	0.93	0.80	0.97	1.00	
13	1.00	0.02	0.00	0.55	0.00	0.00	0.00	0.00	0.03	0.00	0.63	0.27	1.00	0.80	0.06	1.00	
14	1.00	0.00	0.01	0.07	0.00	0.00	0.00	0.20	0.42	0.00	0.69	0.00	0.73	1.00	0.00	1.00	
15	0.80	0.00	0.00	0.06	0.00	0.00	0.00	0.89	0.94	0.00	0.43	0.29	0.94	0.98	0.00	1.00	
16	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.19	0.00	0.22	0.88	1.00	1.00	0.00	1.00	
17	0.32	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.50	0.40	1.00	1.00	0.00	1.00	
18	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.18	0.08	0.12	0.00	0.15	
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		8.57	0.02	0.78	4.48	0.00	0.00	0.01	2.75	2.05	0.44	7.31	7.66	11.37	11.54	6.18	11.66

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	0.69	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.62	0.00	0.00	0.25	
7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.33	
8	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.00	1.00	0.00	0.00	0.36	
9	1.00	0.01	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1.00	0.00	0.00	0.32	
10	0.88	0.07	0.70	0.16	0.00	0.00	0.00	0.00	0.46	0.24	0.00	1.00	0.50	0.00	0.36	
11	0.91	0.69	1.00	0.11	0.00	0.00	0.00	0.13	0.44	0.02	0.00	0.81	0.00	0.03	0.35	
12	0.77	0.99	1.00	0.65	0.04	0.00	0.00	0.10	0.05	0.12	0.00	0.40	0.00	0.00	0.38	
13	0.92	1.00	0.95	0.44	0.55	0.00	0.00	0.06	0.06	0.00	0.52	0.39	0.00	0.00	0.34	
14	0.99	1.00	0.80	0.76	1.00	0.11	0.00	0.24	0.04	0.00	0.19	0.32	0.01	0.00	0.35	
15	0.99	0.89	0.90	1.00	1.00	0.14	0.00	0.04	0.00	0.00	0.76	0.23	0.02	0.00	0.41	
16	1.00	0.96	0.95	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.03	1.00	0.05	0.00	0.35	
17	1.00	0.80	0.77	0.76	0.51	0.00	0.00	0.00	0.00	0.00	0.60	0.39	0.00	0.00	0.33	
18	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
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		11.25	6.52	7.44	4.87	4.10	0.26	0.00	0.58	1.05	3.24	2.08	8.16	0.58	0.03	124.98

September 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	21.16	30.2	1446	14.0	413	78.6	97.5	538	49.8	1526	16.9	11.9	14.2	1413	9.4	413	1012.99	1018.4	35	1009.6	1705	0
2	19.08	21.7	1447	17.0	2359	88.3	97.1	51	68.0	1420	17.0	12.0	13.1	834	10.3	2310	1010.15	1011.5	2323	1008.8	435	1.3
3	17.57	21.2	1221	13.5	2356	84.2	97.4	653	65.4	1447	14.8	10.4	12.2	1017	8.6	2348	1013.09	1016.2	2352	1010.8	433	1.2
4	14.87	21.1	1331	8.7	533	74.3	98.7	549	43.8	1332	9.8	7.5	8.7	1045	6.4	1359	1017.09	1018.1	948	1015.8	0	0.1
5	15.70	17.8	2349	12.8	405	95.6	99.1	2346	87.6	0	15.0	10.6	12.5	2349	8.5	0	1012.40	1017.2	13	1008.6	1543	12.8
6	16.23	18.8	1114	14.3	2308	97.3	99.4	130	93.0	1117	15.8	11.1	12.6	1114	9.8	2325	1010.47	1012.0	802	1009.5	825	9.4
7	15.49	18.1	1452	12.4	328	95.7	100.0	745	83.7	1449	14.8	10.4	11.4	1136	8.8	328	1009.53	1011.5	0	1006.0	2359	0.1
8	16.42	20.5	1232	13.2	628	89.6	99.9	745	64.6	1540	14.6	10.4	11.9	1013	9.2	628	1003.99	1006.2	1	1002.1	1547	12.8
9	14.61	18.2	1544	10.6	2350	75.8	94.3	243	53.3	1539	10.2	7.8	10.3	119	6.4	2158	1011.19	1015.0	2134	1004.7	8	0.3
10	13.54	19.5	1234	8.4	2325	83.8	94.9	1917	56.8	1235	10.7	8.0	9.7	950	6.3	2336	1008.82	1014.5	15	1004.5	1746	1.9
11	10.64	16.9	1359	6.9	2355	75.0	93.9	429	44.7	1512	6.1	5.8	7.0	1631	4.9	1554	1010.42	1013.6	2358	1008.1	9	0.4
12	9.01	16.3	1307	3.9	2346	80.4	98.0	2356	47.8	1302	5.6	5.6	7.1	1441	4.8	1245	1017.56	1024.7	2359	1013.5	1	1.7
13	8.87	16.8	1518	1.7	528	77.8	99.7	701	39.0	1257	4.4	5.1	6.1	1017	4.2	1257	1029.00	1031.8	2246	1024.6	4	0.2
14	11.35	19.1	1319	3.2	529	76.8	98.8	651	47.1	1100	6.9	6.1	7.3	1327	4.6	529	1030.57	1032.0	26	1029.1	1717	0
15	13.34	19.5	1300	5.5	526	81.8	98.8	603	56.9	1313	10.0	7.5	9.0	2044	5.4	531	1027.28	1029.7	24	1025.3	1535	0.2
16	14.84	21.1	1439	9.0	2346	76.5	97.3	646	43.9	1450	10.3	7.6	9.0	1128	6.3	1604	1029.03	1032.0	2319	1026.2	2	0.1
17	13.76	21.5	1325	5.4	530	78.2	99.7	706	51.2	1441	9.6	7.3	8.7	1214	5.3	530	1030.86	1032.8	554	1028.7	1604	0
18	17.43	23.9	1457	13.1	407	77.6	91.3	2256	55.9	1459	13.3	9.3	10.7	1210	8.2	406	1027.71	1029.9	50	1025.3	1706	0
19	18.24	25.2	1404	12.4	2346	79.2	94.9	2350	50.5	1506	14.3	9.9	11.6	1226	8.2	2312	1024.36	1026.7	1	1021.9	1624	0
20	16.49	22.7	1542	12.6	0	80.9	95.0	11	55.5	1533	13.1	9.2	11.3	1442	8.2	1127	1020.80	1023.8	26	1018.2	1545	0.5
21	16.38	21.9	1518	13.5	14	91.1	97.5	1202	66.7	1619	14.9	10.4	12.3	1512	8.9	2	1017.05	1019.3	15	1014.9	2359	2.7
22	16.69	20.0	1418	15.2	421	95.4	98.6	1026	81.1	1416	15.9	11.2	12.9	1258	10.2	332	1011.05	1015.1	0	1007.1	2355	8
23	15.04	16.4	1321	13.4	2345	96.0	98.4	408	87.1	1355	14.4	10.2	11.0	1	9.3	2307	1003.88	1007.2	0	1002.0	2356	23.2
24	13.86	16.6	1418	12.1	2353	84.3	98.3	404	61.8	1455	11.1	8.3	9.7	336	6.9	1534	1003.84	1005.5	2010	1001.4	224	0.3
25	13.16	16.9	1146	10.7	746	89.7	98.2	935	69.4	1148	11.4	8.5	10.3	1939	7.3	13	997.59	1004.8	2	989.0	2339	4.1
26	13.42	17.9	1059	11.6	2355	92.7	98.9	416	69.9	1058	12.2	9.0	11.0	1227	7.4	2357	986.84	990.5	2359	982.1	1400	27.8
27	9.86	13.0	1502	5.3	2335	84.7	95.9	250	62.2	1600	7.3	6.4	7.9	205	4.9	1953	1003.32	1018.0	2359	990.4	11	4
28	7.96	15.2	1325	2.3	502	83.5	99.1	722	51.6	1556	4.9	5.3	6.5	1323	4.4	446	1024.06	1027.4	2246	1017.9	0	0.2
29	9.02	14.1	1319	2.6	225	85.3	99.5	757	59.4	1320	6.4	6.0	7.8	2358	4.4	230	1018.06	1026.8	0	1004.3	2359	1.9
30	13.87	16.7	1015	11.2	0	88.3	98.3	806	74.7	1928	11.9	8.8	11.3	1015	6.7	2339	1002.45	1008.4	2347	997.6	625	6.7
Total																						121.9
Mean	14.26	19.29		9.88		84.6	97.61		61.42		11.45	8.59	10.17		7.14		1014.18	1018.01		1010.27		
Max	21.16	30.15		17.04		97.3	100.00		93.00		17.03	12.03	14.17		10.29		1030.86	1032.78		1029.10		
Min	7.96	12.97		1.69		74.3	91.30		39.03		4.42	5.11	6.14		4.16		986.84	990.51		982.07		

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 or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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