

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

AUGUST 2019

| Temperature (°C) | | Anomaly | Rank in the past 138 years | | | | | | |
|-----------------------------------|--------|-------------------------------------|-----------------------------------|---------------------|--|--------------------------|---------------------|---------------------|---|
| Mean maximum | 24.2 | +1.6 | 11 th highest | | | | | | |
| Mean minimum | 12.7 | +0.3 | 17 th highest | | | | | | |
| Daily mean | 18.5 | +1.0 | 10 th highest | | | | | | |
| Highest maximum | 32.6 | on 27 th | Lowest maximum | 18.4 | on 16 th | | | | |
| Highest minimum | 16.6 | on 9 th 28 th | Lowest minimum | 8.4 | on 21 st | | | | |
| Mean grass minimum | 9.3 | 0.0 | Lowest grass minimum | 4.2 | on 29 th | | | | |
| Mean earth @30 cm | 19.3 | +0.6 | Earth @100 cm | 19.3 | | | | | |
| Frost duration (hrs) | 0.0 | | Rain duration (hrs) | 20.5 | | | | | |
| Rainfall total (mm) | 33.2 | 66 % | 35 th lowest | | | | | | |
| Highest daily fall | 8.3 | on 16 th | Highest rate mm/hr | 107 | on 18 th | | | | |
| Number of: Dry days (<0.2mm) | 16 | Wet days (>0.9mm) | 9 | days ≥5mm | 2 | | | | |
| Sunshine total (hrs) | 228.5 | Daily mean | 7.37 | 116 % | Sunniest day | 13.5 on 26 th | | | |
| 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 | 0 |
| Pressure MSL : Mean @09 GMT, mbar | 1014.7 | -1.6 | Highest | 1028.1 | on 21 st | Lowest | 996.9 | on 10 th | |
| Relative humidity : Mean (%) | 74.2 | Lowest | 24 | on 24 th | Water vapour (g/kg), mean at 09 and 15 GMT | 9.7, | 8.9 | | |
| Overall mean wind speed (mph) | 6.9 | Windiest day | 16.2 | on 10 th | Max gust | 44 | on 10 th | | |
| Wind direction (days) | N 1 | NE 0 | E 0 | SE 2 | S 8 | SW 17 | W 2 | NW 1 | |
| Least windy day (mph) | 3.0 | on 24 th | Calm; less than 0.5 mph (minutes) | 877 | | | | | |

Anomaly = departure from 1981 to 2010 average (degrees C, percent and mbar).

Notes:

Warm, Dry and Sunny with a Heatwave late in month.

Temperature: This has been a warm August overall, though almost entirely due to a heatwave towards the end of the month, temperatures up to the 22nd being near of below average. The heatwave produced 3 days with a maximum around 32°, bringing the total to 7 for 30°+ days this summer. Mean temperatures this month were almost exactly the same as in August last year, and the mean of 18.5° is equal highest with 2016 since 2003, and is just 0.1° higher than last year's mean. The highest max is 4.7° above the median and is highest since 2013 while the lowest max is 1.5° above its median. The highest min is 0.3° above the median while the lowest min is 2.1° above its median and 5th highest in 116 years. The mean daily temperature range is highest since 2005. The lowest grass min is highest since 2004. Earth temperature at 30cm is well above average and the mean at 1 m is highest since before 1989. Anomalies for daily max were slightly +ve up to the 9th, then mainly -ve up to the 21st, ranging from +3° on the 4th to -5° on the 16th. After the 21st all were +ve, with extreme values over +10° on the 25th to 27th and a peak of +11.5° on the 27th. Anomalies for daily min ranged from +6° on the 28th to -4° on the 21st. **Rainfall:** This has been quite a dry August with just over two-thirds of the average rainfall. Compared with recent years it is driest since 2016 and in this millennium 5 Augusts have been drier. The highest daily fall is lowest since 2012. Despite the above, the number of dry days is 3 less than average. Daily rainfall accumulation compared with normal was in deficit for most of the month, and this had reached 11 mm on the 12th, but then decreased and became a small surplus of 2 mm by the 18th, thereafter it was mainly dry and the month ended with a deficit of 18 mm on the 31st. A dry spell of 7 days ended on the 26th, and thunder was heard on the 27th and 28th, and there was a violent rain shower on the 18th. **Sunshine:** This has ended up being a sunny August, the sunniest since 2005, but this seemed far from likely before the 20th after which there was an exceptionally sunny spell, with 65 hours over a 5 days period to the 27th, a mean of 13.0 hours per day. The first half of the month was quite poor sun-wise, with only 2 days up to the 16th having over 50% of the maximum, while there were 13 such days from the 17th onwards, including 4 with over 90%. Daily accumulation compared with normal was close to normal up to the 13th, becoming in deficit by 12 hours by the 16th, creeping back to normal by the 21st, after which many sunny days produced a surplus near 40 hours by the 31st. Overall there were 4 days with <3 hours, 20 with =>6 hours, 10 with =>9 hours and 5 with =>12 hours. **Wind:** This has been windy August with the mean speed 0.9 mph above average and highest since 2008. The month's highest gust is highest since 1992 and a daily mean speed of 16.2 mph for the 10th is a new August highest since before 1988. Despite the above, the duration of calm is 3.4 hours above average. Daily mean direction lay between S and W except for NW on 1st, N on 2nd and SE on 3rd and 24th. Speeds were light or moderate except for fresh on the 6th, 9th and 18th, and strong on the 10th.

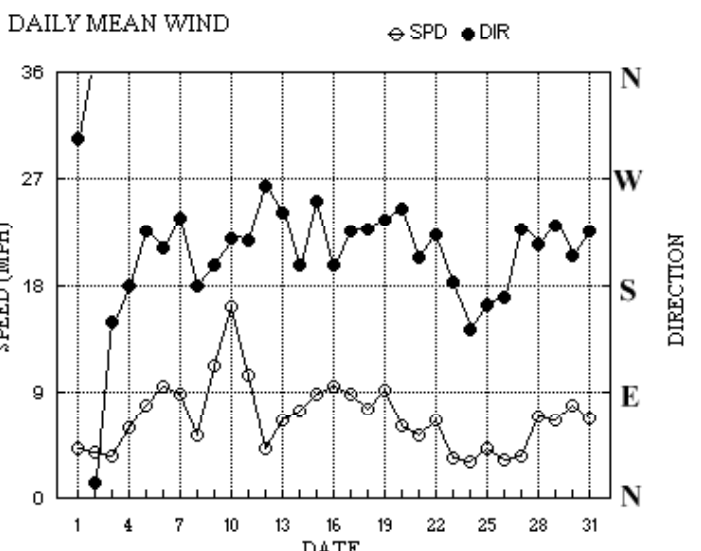
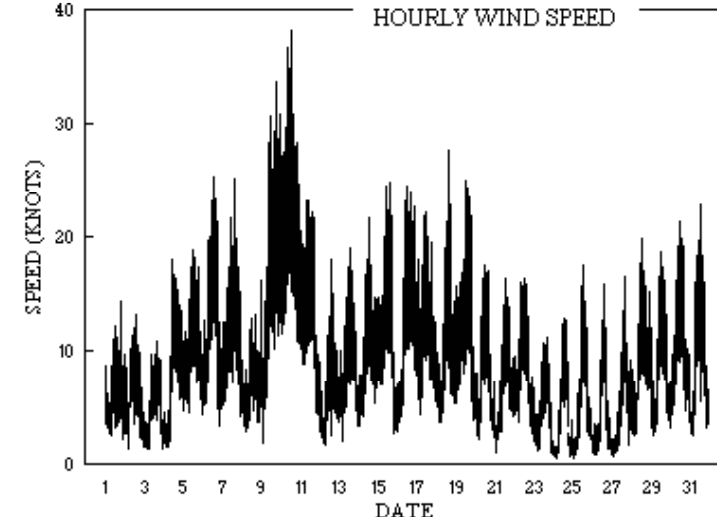
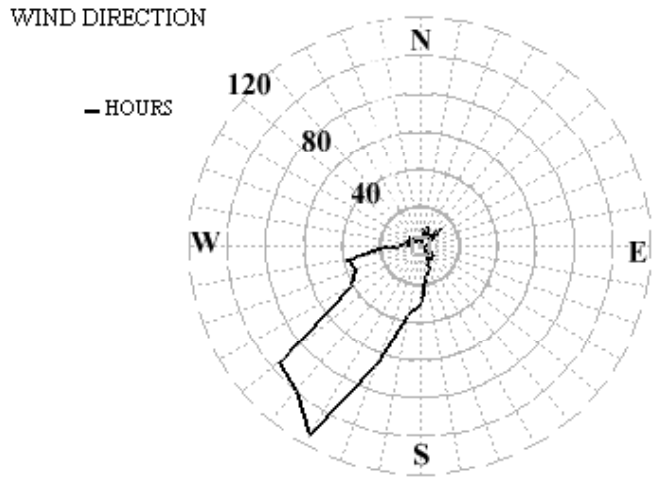
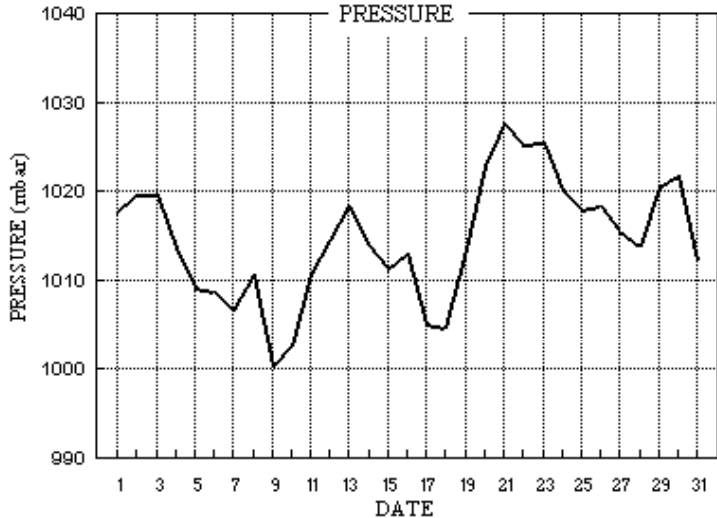
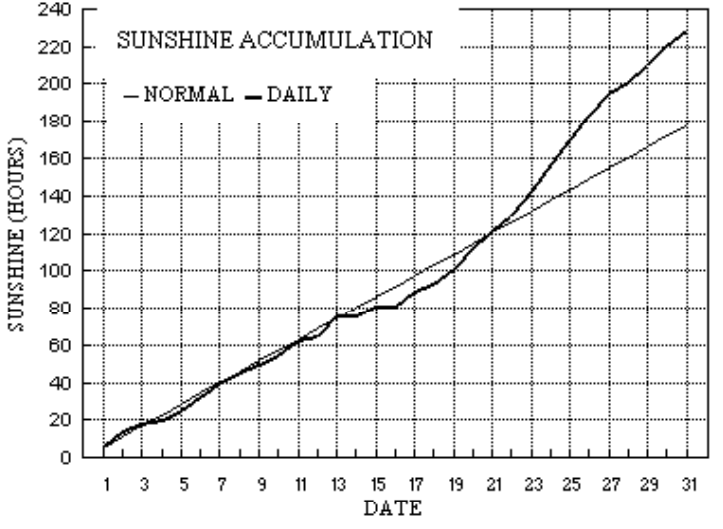
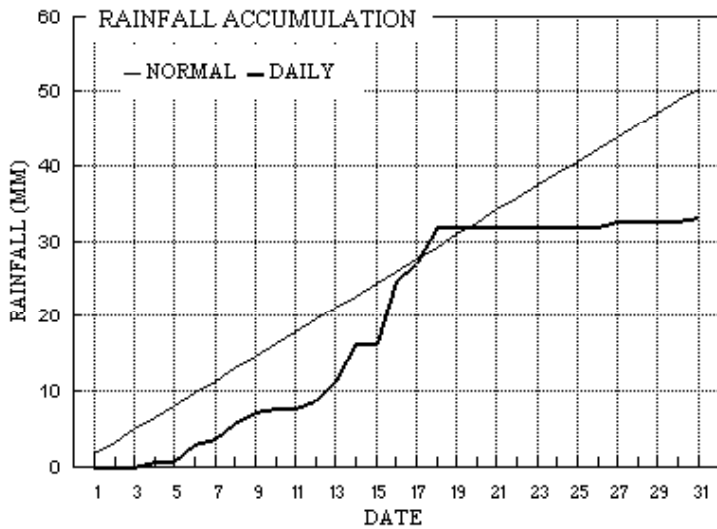
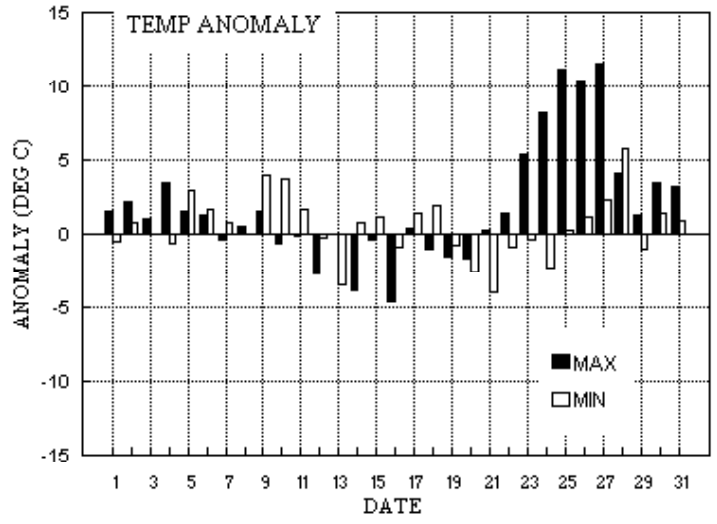
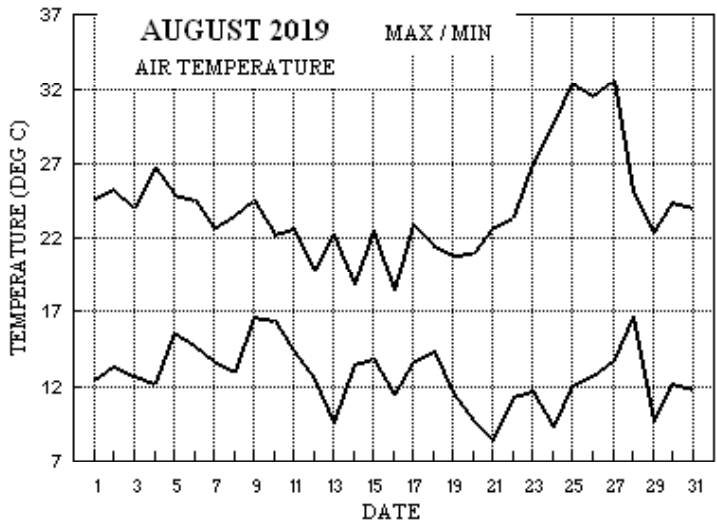
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

| From the 1 st to the 10 th | | | | From the 11 th to the 20 th | | | | From the 21 st to the 31 st | | | |
|--|-------|-----|-----|---|-------|------|-----|---|-------|----|------|
| +1.2° | +1.3° | 47% | 87% | -1.6° | -0.1° | 150% | 90% | +5.5° | +0.3° | 6% | 166% |

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for August 2019



Month: AUGUST 2019

| Date | Max | Min | Rain | Grass | 30cm | 100cm | Sun | Frost | pp09 | Af | Sf | Th | Ic | Vec | mean | | | Max gust | | | High hr | | Rain | |
|------------|------|------|------|-------|------|-------|-------|-------|-------------------------|----|----|----|----|--------|------|------|-----|----------|------|-----|---------|----|------|--|
| | C | C | mm | Min | C | C | hrs | hrs | mbar | Gf | Sl | Ha | Fg | ddd | ff | sp | ddd | gg | HHhh | ddd | ff | HH | hrs | |
| 1 | 24.7 | 12.4 | tr | 8.8 | 19.9 | 19.5 | 6.4 | 0.0 | 1017.7 | 0 | 0 | 0 | 0 | 304 | 2.0 | 3.6 | 1 | 14 | 1905 | 316 | 5 | 10 | 0.0 | |
| 2 | 25.3 | 13.4 | 0.0 | 9.5 | 20.2 | 19.5 | 7.7 | 0.0 | 1019.7 | 0 | 0 | 0 | 0 | 13 | 3.2 | 3.4 | 333 | 13 | 1317 | 18 | 6 | 08 | 0.0 | |
| 3 | 24.1 | 12.7 | 0.0 | 9.0 | 20.3 | 19.5 | 4.9 | 0.0 | 1019.7 | 0 | 0 | 0 | 0 | 149 | 2.3 | 3.1 | 162 | 11 | 1637 | 173 | 5 | 17 | 0.0 | |
| 4 | 26.7 | 12.2 | 0.7 | 8.5 | 20.2 | 19.5 | 1.5 | 0.0 | 1013.6 | 0 | 0 | 0 | 0 | 179 | 3.7 | 5.2 | 143 | 18 | 1159 | 155 | 10 | 12 | 0.3 | |
| 5 | 24.9 | 15.7 | tr | 13.0 | 20.2 | 19.5 | 5.5 | 0.0 | 1009.2 | 0 | 0 | 0 | 0 | 225 | 6.2 | 6.8 | 270 | 19 | 1216 | 235 | 9 | 18 | 0.0 | |
| 6 | 24.5 | 14.7 | 2.2 | 11.1 | 20.2 | 19.5 | 7.1 | 0.0 | 1008.8 | 0 | 0 | 0 | 0 | 211 | 8.2 | 8.2 | 215 | 25 | 1338 | 211 | 13 | 12 | 0.5 | |
| 7 | 22.7 | 13.7 | 0.9 | 10.4 | 20.1 | 19.6 | 6.8 | 0.0 | 1006.7 | 0 | 0 | 0 | 0 | 236 | 7.5 | 7.7 | 266 | 25 | 1458 | 255 | 11 | 14 | 0.2 | |
| 8 | 23.5 | 12.9 | 2.0 | 9.4 | 19.9 | 19.6 | 5.9 | 0.0 | 1010.6 | 0 | 0 | 0 | 0 | 179 | 3.8 | 4.6 | 135 | 16 | 2321 | 156 | 7 | 17 | 2.1 | |
| 9 | 24.5 | 16.6 | 1.5 | 15.2 | 20.1 | 19.6 | 4.0 | 0.0 | 1000.2 | 0 | 0 | 0 | 0 | 196 | 9.0 | 9.8 | 220 | 34 | 1952 | 204 | 14 | 18 | 1.9 | |
| 10 | 22.3 | 16.4 | 0.4 | 14.6 | 20.1 | 19.6 | 5.1 | 0.0 | 1002.7 | 0 | 0 | 0 | 0 | 219 | 14.0 | 14.1 | 200 | 38 | 1208 | 225 | 20 | 12 | 0.2 | |
| 11 | 22.7 | 14.4 | tr | 12.9 | 19.6 | 19.6 | 7.6 | 0.0 | 1010.7 | 0 | 0 | 0 | 0 | 217 | 9.0 | 9.1 | 200 | 23 | 1104 | 234 | 12 | 08 | 0.0 | |
| 12 | 19.9 | 12.4 | 1.0 | 8.8 | 19.4 | 19.6 | 2.3 | 0.0 | 1014.5 | 0 | 0 | 0 | 0 | 264 | 2.8 | 3.7 | 288 | 18 | 1544 | 287 | 6 | 15 | 0.4 | |
| 13 | 22.3 | 9.5 | 2.6 | 6.7 | 19.0 | 19.5 | 11.0 | 0.0 | 1018.3 | 0 | 0 | 0 | 0 | 242 | 5.5 | 5.8 | 261 | 19 | 1448 | 250 | 9 | 15 | 1.4 | |
| 14 | 18.8 | 13.5 | 5.0 | 9.6 | 19.0 | 19.4 | 0.1 | 0.0 | 1013.9 | 0 | 0 | 0 | 0 | 196 | 6.3 | 6.5 | 190 | 22 | 1313 | 193 | 10 | 13 | 3.2 | |
| 15 | 22.5 | 13.8 | tr | 12.0 | 18.6 | 19.3 | 5.4 | 0.0 | 1011.4 | 0 | 0 | 0 | 0 | 251 | 7.3 | 7.7 | 271 | 25 | 1441 | 270 | 11 | 14 | 0.0 | |
| 16 | 18.4 | 11.4 | 8.3 | 6.4 | 18.6 | 19.3 | 0.1 | 0.0 | 1013.1 | 0 | 0 | 0 | 0 | 196 | 8.1 | 8.2 | 187 | 25 | 1257 | 194 | 11 | 15 | 7.1 | |
| 17 | 22.9 | 13.6 | 2.6 | 9.3 | 18.3 | 19.2 | 8.3 | 0.0 | 1005.1 | 0 | 0 | 0 | 0 | 226 | 7.5 | 7.7 | 219 | 22 | 1200 | 230 | 10 | 09 | 1.2 | |
| 18 | 21.5 | 14.3 | 4.7 | 13.1 | 18.6 | 19.1 | 3.5 | 0.0 | 1004.7 | 0 | 0 | 0 | 0 | 227 | 6.3 | 6.6 | 266 | 28 | 1426 | 247 | 12 | 14 | 0.5 | |
| 19 | 20.9 | 11.6 | 0.2 | 8.0 | 18.3 | 19.1 | 8.3 | 0.0 | 1013.5 | 0 | 0 | 0 | 0 | 235 | 7.7 | 7.9 | 263 | 25 | 1311 | 246 | 12 | 14 | 0.5 | |
| 20 | 21.0 | 9.7 | 0.0 | 5.8 | 18.1 | 19.1 | 10.9 | 0.0 | 1022.9 | 0 | 0 | 0 | 0 | 244 | 5.0 | 5.3 | 239 | 18 | 1216 | 256 | 9 | 15 | 0.0 | |
| 21 | 22.6 | 8.4 | 0.0 | 5.3 | 17.9 | 19.0 | 9.3 | 0.0 | 1027.7 | 0 | 0 | 0 | 0 | 203 | 4.6 | 4.7 | 181 | 16 | 1458 | 196 | 8 | 16 | 0.0 | |
| 22 | 23.4 | 11.3 | 0.0 | 7.8 | 18.1 | 19.0 | 8.4 | 0.0 | 1025.4 | 0 | 0 | 0 | 0 | 222 | 5.7 | 5.8 | 259 | 17 | 1229 | 226 | 8 | 11 | 0.0 | |
| 23 | 27.0 | 11.7 | 0.0 | 8.1 | 18.3 | 18.9 | 13.0 | 0.0 | 1025.6 | 0 | 0 | 0 | 0 | 183 | 2.8 | 3.0 | 153 | 11 | 1752 | 183 | 6 | 17 | 0.0 | |
| 24 | 29.7 | 9.3 | 0.0 | 5.5 | 18.8 | 18.9 | 13.5 | 0.0 | 1020.0 | 0 | 0 | 0 | 0 | 143 | 1.7 | 2.6 | 158 | 13 | 1453 | 160 | 7 | 16 | 0.0 | |
| 25 | 32.5 | 12.1 | 0.0 | 8.8 | 19.0 | 19.0 | 13.0 | 0.0 | 1018.0 | 0 | 0 | 0 | 0 | 163 | 2.6 | 3.6 | 153 | 18 | 1233 | 159 | 8 | 12 | 0.0 | |
| 26 | 31.6 | 12.7 | 0.0 | 8.6 | 19.4 | 19.0 | 13.5 | 0.0 | 1018.4 | 0 | 0 | 0 | 0 | 170 | 2.2 | 2.8 | 213 | 16 | 1501 | 164 | 8 | 15 | 0.0 | |
| 27 | 32.6 | 13.7 | 0.6 | 10.1 | 19.7 | 19.1 | 12.0 | 0.0 | 1015.5 | 0 | 0 | 0 | 1 | 227 | 1.7 | 3.1 | 231 | 17 | 1615 | 230 | 8 | 16 | 0.5 | |
| 28 | 25.2 | 16.6 | tr | 14.7 | 20.3 | 19.2 | 6.1 | 0.0 | 1013.8 | 0 | 0 | 0 | 1 | 215 | 5.5 | 6.1 | 206 | 20 | 1326 | 212 | 10 | 13 | 0.0 | |
| 29 | 22.4 | 9.7 | 0.0 | 4.2 | 20.0 | 19.3 | 9.6 | 0.0 | 1020.5 | 0 | 0 | 0 | 0 | 231 | 5.3 | 5.7 | 251 | 19 | 1350 | 243 | 9 | 13 | 0.0 | |
| 30 | 24.4 | 12.2 | 0.0 | 7.0 | 19.4 | 19.4 | 9.8 | 0.0 | 1021.8 | 0 | 0 | 0 | 0 | 205 | 6.7 | 6.9 | 175 | 21 | 1333 | 205 | 10 | 14 | 0.0 | |
| 31 | 24.1 | 11.8 | 0.5 | 6.6 | 19.3 | 19.4 | 7.9 | 0.0 | 1012.3 | 0 | 0 | 0 | 0 | 225 | 5.4 | 5.9 | 257 | 23 | 1428 | 249 | 10 | 14 | 0.5 | |
| Total | | | 33.2 | | | | 228.5 | 0.0 | | | | | | | | | | | | | | | 20.5 | |
| Mean | 24.2 | 12.7 | | 9.3 | 19.3 | 19.3 | 7.37 | 0.0 | 1014.7 | | | | | 217 | 4.8 | 6.0 | | | | | | | | |
| Anom | +1.6 | +0.3 | 66% | +0.0 | +0.6 | +1.7 | 116% | | -1.6 | | | | | | | | | | | | | | | |
| Daily mean | | 18.5 | | | | | | | Pressure, abs highest = | | | | | 1028.1 | | | | | | | | | | |
| Anom | | +1.0 | | | | | | | Pressure, abs lowest = | | | | | 996.9 | | | | | | | | | | |

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 0
 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.

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for AUGUST 2019

| Date | VV | N | dd | ff | gg | TT | TdTd | RH | r | PPP | a | pppww | W1W2 | NhCl | hCrCl | NChshs | NChshs | NChshs | Date | Remarks | | | | | |
|------|----|---|----|----|----|------|------|----|------|--------|---|-------|------|------|-------|--------|--------|--------|------|---------|-------|-------|---------------------------|---|-----------------------|
| 1 | 70 | 7 | 30 | 03 | 09 | 18.1 | 14.0 | 77 | 9.9 | 1017.7 | 3 | 004 | 03 | 2 | 2 | 7 | 8 | 4 | / / | 83818 | 87625 | 1 | Cu hum | | |
| 2 | 72 | 5 | 35 | 05 | 12 | 18.8 | 13.6 | 72 | 9.6 | 1019.7 | 2 | 005 | 02 | 1 | 1 | 5 | 1 | 5 | 0 | 0 | 85822 | 2 | Cu hum | | |
| 3 | 75 | 8 | 10 | 03 | 10 | 20.1 | 14.9 | 72 | 10.4 | 1019.7 | 8 | 002 | 03 | 2 | 2 | 1 | 1 | 4 | 0 | 7 | 81818 | 88270 | 3 | Cu hum COTRA U/a cont | |
| 4 | 68 | 7 | 14 | 04 | 12 | 21.9 | 18.2 | 68 | 11.1 | 1013.6 | 8 | 012 | 01 | 2 | 2 | 1 | 5 | 7 | 8 | 2 | 81656 | 83361 | 87070 | 4 | 2Ac68 Ac cas |
| 5 | 80 | 7 | 22 | 09 | 15 | 19.7 | 16.9 | 84 | 12.0 | 1009.2 | 6 | 008 | 21 | 6 | 2 | 7 | 8 | 3 | / / | 81706 | 86810 | 5 | 3Sc35 Cu med | | |
| 6 | 84 | 6 | 22 | 11 | 20 | 20.6 | 13.3 | 63 | 9.5 | 1008.8 | 7 | 005 | 03 | 1 | 1 | 5 | 8 | 5 | 0 | 1 | 85825 | 84080 | 6 | 1Sc56 COTRA Cu med | |
| 7 | 82 | 7 | 23 | 09 | 15 | 18.5 | 13.6 | 73 | 9.7 | 1006.7 | 1 | 005 | 25 | 8 | 1 | 7 | 8 | 4 | / / | 81818 | 83645 | 87650 | 7 | Cu med | |
| 8 | 82 | 6 | 21 | 03 | 07 | 18.5 | 13.4 | 72 | 9.5 | 1010.6 | 0 | 002 | 03 | 2 | 2 | 1 | 1 | 4 | 7 | 2 | 81818 | 86368 | 8 | 1Ac66 2Ci75 Cu hum Ac vir | |
| 9 | 84 | 6 | 20 | 10 | 18 | 22.4 | 17.1 | 72 | 12.2 | 1000.2 | 6 | 004 | 01 | 6 | 2 | 3 | 8 | 5 | 0 | 8 | 83825 | 83275 | 9 | 1Sc35 2Ci78 Cu med U/a cont + parhelion | |
| 10 | 70 | 7 | 21 | 17 | 32 | 18.7 | 12.7 | 68 | 9.2 | 1002.7 | 1 | 012 | 25 | 8 | 2 | 7 | 8 | 5 | / / | 82827 | 83635 | 87645 | 10 | Cu hum | |
| 11 | 80 | 7 | 23 | 13 | 23 | 19.1 | 12.1 | 64 | 8.8 | 1010.7 | 0 | 002 | 03 | 1 | 1 | 3 | 1 | 5 | 0 | 1 | 83828 | 86078 | 11 | Cu hum | |
| 12 | 82 | 7 | 31 | 04 | 07 | 16.3 | 10.4 | 68 | 7.8 | 1014.5 | 1 | 007 | 03 | 2 | 2 | 7 | 8 | 4 | 3 | / | 83818 | 85640 | 85359 | 12 | Cu med |
| 13 | 86 | 1 | 30 | 07 | 11 | 16.9 | 9.1 | 60 | 7.1 | 1018.3 | 0 | 004 | 03 | 1 | 1 | 1 | 1 | 5 | 4 | 2 | 81828 | 13 | 1Ac58 1Ci72 Cu hum | | |
| 14 | 50 | 8 | 19 | 08 | 16 | 14.7 | 13.4 | 92 | 9.5 | 1013.9 | 7 | 012 | 51 | 6 | 5 | 5 | 8 | 4 | 2 | / | 83810 | 83625 | 88550 | 14 | Cu med Hvy ra 0806-15 |
| 15 | 84 | 6 | 26 | 10 | 20 | 18.8 | 12.3 | 66 | 8.9 | 1011.4 | 2 | 014 | 03 | 1 | 1 | 6 | 1 | 5 | 0 | 0 | 86828 | 15 | Cu hum | | |
| 16 | 80 | 8 | 21 | 08 | 16 | 17.3 | 12.8 | 75 | 9.2 | 1013.1 | 7 | 017 | 60 | 6 | 2 | 8 | 8 | 5 | / / | 83820 | 88640 | 16 | Cu med | | |
| 17 | 75 | 3 | 23 | 11 | 22 | 18.3 | 14.0 | 76 | 10.0 | 1005.1 | 2 | 006 | 03 | 0 | 0 | 2 | 8 | 4 | 0 | 2 | 82815 | 17 | 1Sc40 2Ci73 COTRA Cu hum | | |
| 18 | 25 | 8 | 23 | 06 | 12 | 14.4 | 13.3 | 93 | 9.5 | 1004.7 | 3 | 020 | 65 | 6 | 2 | 7 | 7 | 3 | 2 | / | 83706 | 85712 | 88545 | 18 | |
| 19 | 80 | 5 | 23 | 08 | 17 | 17.9 | 12.6 | 71 | 9.0 | 1013.5 | 2 | 011 | 03 | 8 | 1 | 4 | 8 | 4 | 8 | 0 | 84818 | 19 | 1Sc56 2Ac58 Cu med Ac cas | | |
| 20 | 84 | 1 | 27 | 07 | 14 | 16.8 | 9.0 | 60 | 7.0 | 1022.9 | 2 | 018 | 03 | 0 | 0 | 1 | 8 | 6 | 0 | 0 | 81830 | 20 | 1Sc56 Cu med | | |
| 21 | 80 | 7 | 20 | 02 | 06 | 17.0 | 12.5 | 75 | 8.9 | 1027.7 | 0 | 002 | 03 | 2 | 2 | 1 | 1 | 5 | 3 | 8 | 81820 | 87275 | 21 | 1Ac67 2Cs70 COTRA Cu hum | |
| 22 | 82 | 3 | 22 | 08 | 16 | 18.4 | 12.4 | 68 | 8.8 | 1025.4 | 2 | 004 | 03 | 0 | 0 | 1 | 8 | 5 | 0 | 1 | 81820 | 83080 | 22 | COTRA Cu hum | |
| 23 | 80 | 6 | 19 | 03 | 06 | 19.5 | 15.0 | 75 | 10.4 | 1025.6 | 0 | 000 | 03 | 2 | 2 | 1 | 1 | 4 | 0 | 1 | 81818 | 86080 | 23 | COTRA Cu hum | |
| 24 | 58 | 7 | 05 | 03 | 06 | 20.0 | 15.8 | 77 | 11.1 | 1020.0 | 8 | 006 | 05 | 2 | 2 | 1 | 0 | 9 | 8 | 1 | 81370 | 87075 | 24 | COTRA Ac flo | |
| 25 | 58 | 2 | 04 | 03 | 06 | 22.8 | 16.4 | 67 | 11.5 | 1018.0 | 2 | 005 | 05 | 1 | 1 | 2 | 0 | 9 | 8 | 1 | 81360 | 25 | 2Ac64 1Ac68 1Ci75 Ac cas | | |
| 26 | 62 | 1 | 22 | 02 | 04 | 23.3 | 15.9 | 63 | 11.1 | 1018.4 | 4 | 000 | 02 | 0 | 0 | 0 | 0 | 9 | 0 | 1 | 81080 | 26 | | | |
| 27 | 61 | 2 | 35 | 02 | 05 | 22.8 | 16.1 | 66 | 11.3 | 1015.5 | 4 | 000 | 01 | 1 | 1 | 1 | 0 | 9 | 4 | 1 | 81358 | 27 | 1Ac62 1Ci80 COTRA | | |
| 28 | 84 | 7 | 19 | 07 | 12 | 20.1 | 15.3 | 74 | 10.8 | 1013.8 | 6 | 003 | 03 | 9 | 2 | 1 | 1 | 4 | 8 | / | 81818 | 87365 | 28 | 1Ac60 Cu fra Ac cas | |
| 29 | 81 | 1 | 25 | 04 | 09 | 17.0 | 11.7 | 71 | 8.5 | 1020.5 | 2 | 012 | 03 | 1 | 1 | 1 | 1 | 4 | 0 | 1 | 81815 | 29 | 1Ci80 COTRA Cu hum | | |
| 30 | 81 | 6 | 21 | 10 | 16 | 18.6 | 13.7 | 73 | 9.6 | 1021.8 | 3 | 002 | 03 | 2 | 2 | 2 | 1 | 4 | 3 | 1 | 82818 | 84362 | 30 | 3Ci75 COTRA Cu hum | |
| 31 | 81 | 7 | 21 | 08 | 16 | 18.3 | 12.7 | 70 | 9.1 | 1012.3 | 7 | 010 | 02 | 1 | 1 | 4 | 8 | 4 | 0 | 1 | 82818 | 83630 | 86075 | 31 | COTRA Cu hum |

Mean vis = 30.0 km

Mean cloud = 5.5 68%

Mean wind speed = 6.7 kn

Mean gust = 13 kn

Mean TT = 18.9 °C

Mean TdTd = 13.7 °C

Mean RH = 71.8 %

Mean r = 9.7 g/kg

Mean PPP = 1014.7 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)- 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 AUGUST 2019

| Date | VV | N | dd | ff | gg | TT | TdTd | RH | r | PPP | a | ppp | ww | W1 | W2 | Nh | Cl | h | Cr | Ch | NCh | shs | NCh | shs | Date | Remarks |
|------|----|---|----|----|----|------|------|----|------|--------|---|-----|----|----|----|----|----|---|----|----|-------|-------|-------|-----|--|--------------|
| 1 | 80 | 3 | 31 | 05 | 11 | 24.0 | 13.2 | 51 | 9.4 | 1016.9 | 7 | 015 | 02 | 1 | 1 | 3 | 8 | 6 | 0 | 0 | 83840 | | | | 1 | 1Sc56 Cu med |
| 2 | 82 | 5 | 02 | 04 | 12 | 24.5 | 12.8 | 48 | 9.1 | 1018.8 | 8 | 005 | 03 | 1 | 1 | 2 | 2 | 6 | 6 | 1 | 82845 | 83357 | | 2 | 1Ci78 Cu med-con N | |
| 3 | 70 | 8 | 17 | 06 | 09 | 23.7 | 14.4 | 56 | 10.1 | 1017.9 | 7 | 013 | 03 | 2 | 2 | 2 | 2 | 6 | 7 | 7 | 82833 | 83363 | 88270 | 3 | Cu med | |
| 4 | 80 | 8 | 18 | 09 | 16 | 24.8 | 15.7 | 57 | 11.1 | 1011.2 | 6 | 009 | 03 | 2 | 2 | 1 | 8 | 6 | 8 | / | 81840 | 85360 | 88468 | 4 | 1Sc56 Cu med | |
| 5 | 82 | 7 | 26 | 06 | 13 | 25.2 | 11.0 | 41 | 8.1 | 1017.1 | 8 | 019 | 02 | 2 | 2 | 0 | 0 | 9 | 3 | 2 | 83370 | 86075 | | 5 | Absent 5 to 7 inc vv&cld est | |
| 6 | 65 | 4 | 20 | 12 | 25 | 23.2 | 13.4 | 54 | 9.6 | 1005.9 | 7 | 011 | 15 | 1 | 1 | 3 | 9 | 6 | 4 | 0 | 81930 | 82835 | | 6 | 1Sc50 1Ac62 jpNW vv40k ex NW | |
| 7 | 80 | 6 | 26 | 12 | 25 | 22.0 | 12.0 | 53 | 8.7 | 1006.9 | 5 | 001 | 25 | 8 | 1 | 3 | 8 | 6 | 6 | 0 | 82845 | 85358 | | 7 | 2Sc50 Cu con jpS&E vv60k ex p | |
| 8 | 82 | 7 | 18 | 05 | 10 | 21.6 | 14.3 | 63 | 10.1 | 1009.8 | 8 | 006 | 02 | 2 | 2 | 7 | 8 | 6 | 3 | / | 82830 | 87645 | | 8 | /Ac65 Cu hum | |
| 9 | 57 | 7 | 17 | 14 | 26 | 21.7 | 16.7 | 73 | 11.9 | 998.7 | 8 | 016 | 80 | 8 | 2 | 7 | 3 | 4 | / | / | 81712 | 83920 | 83825 | 9 | 2Sc40 Cb NW | |
| 10 | 75 | 5 | 22 | 17 | 32 | 20.4 | 13.1 | 63 | 9.4 | 1006.6 | 2 | 022 | 25 | 8 | 2 | 5 | 8 | 6 | 6 | 0 | 83830 | | | 10 | 2Sc40 1Ac59 Cu con SE | |
| 11 | 65 | 7 | 20 | 12 | 22 | 22.6 | 12.5 | 53 | 9.0 | 1010.0 | 6 | 011 | 15 | 2 | 2 | 3 | 3 | 6 | 4 | 8 | 81930 | 82840 | 86273 | 11 | 1Ac57 jpNW u/a cont | |
| 12 | 70 | 7 | 18 | 03 | 07 | 17.5 | 11.8 | 69 | 8.5 | 1014.5 | 0 | 003 | 25 | 8 | 2 | 3 | 9 | 4 | 6 | 2 | 81915 | 82835 | 86072 | 12 | 1Sc45 2Ac58 Cb&jp SE vv60k ex p | |
| 13 | 85 | 2 | 26 | 09 | 19 | 21.8 | 4.8 | 33 | 5.3 | 1016.8 | 7 | 010 | 02 | 0 | 0 | 2 | 2 | 7 | 0 | 1 | 82850 | | | 13 | 1Ci75 Cu med | |
| 14 | 28 | 8 | 19 | 08 | 17 | 16.4 | 15.4 | 94 | 10.9 | 1009.8 | 7 | 021 | 51 | 6 | 5 | 8 | 5 | 3 | / | / | 83706 | 87708 | 88615 | 14 | | |
| 15 | 84 | 6 | 28 | 11 | 25 | 21.7 | 9.9 | 47 | 7.5 | 1013.9 | 1 | 010 | 03 | 1 | 1 | 1 | 4 | 6 | 0 | 6 | 81848 | 83278 | 85080 | 15 | 1Sc50 Cu hum | |
| 16 | 58 | 8 | 20 | 12 | 22 | 16.3 | 14.8 | 91 | 10.5 | 1009.0 | 7 | 021 | 61 | 6 | 6 | 7 | 5 | 4 | 2 | / | 83712 | 86618 | 88550 | 16 | | |
| 17 | 85 | 5 | 22 | 10 | 20 | 22.3 | 11.4 | 50 | 8.4 | 1004.6 | 8 | 001 | 02 | 1 | 1 | 2 | 8 | 6 | 0 | 1 | 82842 | 84072 | | 17 | 1Sc56 COTRA Cu med | |
| 18 | 86 | 4 | 23 | 11 | 28 | 20.9 | 9.2 | 47 | 7.2 | 1006.2 | 2 | 011 | 02 | 1 | 1 | 4 | 8 | 6 | 0 | 0 | 82842 | 83656 | | 18 | Cu med | |
| 19 | 80 | 5 | 23 | 10 | 25 | 20.0 | 10.4 | 54 | 7.8 | 1015.4 | 2 | 009 | 80 | 8 | 1 | 5 | 9 | 6 | 6 | 0 | 81935 | 82840 | 83650 | 19 | 1Ac58 CbSW vv50k ex SW | |
| 20 | 84 | 4 | 25 | 08 | 16 | 19.8 | 6.2 | 41 | 5.8 | 1024.0 | 2 | 008 | 03 | 1 | 1 | 2 | 4 | 7 | 0 | 4 | 82856 | 83080 | | 20 | 1Sc56 COTRA Cu hum El hz lyr | |
| 21 | 82 | 7 | 19 | 07 | 16 | 22.1 | 10.3 | 47 | 7.6 | 1025.1 | 6 | 013 | 02 | 1 | 1 | 3 | 8 | 6 | 0 | 1 | 83845 | 87077 | | 21 | 1Sc56 COTRA Cu med | |
| 22 | 81 | 7 | 21 | 07 | 15 | 22.6 | 13.1 | 55 | 9.2 | 1024.0 | 8 | 006 | 02 | 1 | 1 | 6 | 8 | 6 | 0 | 1 | 84838 | 85645 | | 22 | 2Ci75 Cu hum | |
| 23 | 84 | 1 | 20 | 05 | 10 | 26.4 | 13.9 | 46 | 9.7 | 1022.4 | 7 | 016 | 02 | 0 | 0 | 1 | 1 | 6 | 0 | 1 | 81848 | | | 23 | 1Ci80 Cu hum | |
| 24 | 81 | 4 | 16 | 06 | 13 | 29.5 | 10.6 | 31 | 7.9 | 1017.0 | 7 | 014 | 01 | 1 | 1 | 0 | 0 | 9 | 0 | 1 | 81172 | 84078 | | 24 | COTRA | |
| 25 | 81 | 0 | 18 | 07 | 15 | 32.2 | 9.7 | 25 | 7.4 | 1016.8 | 7 | 004 | 02 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | | | | 25 | | |
| 26 | 77 | 3 | 21 | 07 | 13 | 30.8 | 14.4 | 37 | 10.2 | 1015.7 | 8 | 010 | 02 | 0 | 0 | 0 | 0 | 9 | 0 | 1 | 83081 | | | 26 | COTRA | |
| 27 | 66 | 3 | 19 | 06 | 14 | 32.1 | 13.8 | 33 | 9.8 | 1011.7 | 7 | 018 | 03 | 0 | 0 | 1 | 2 | 7 | 8 | 1 | 81856 | | | 27 | 2Ac62 2Ci75 COTRA Cu con Ac cas | |
| 28 | 80 | 7 | 21 | 08 | 15 | 22.1 | 12.4 | 54 | 8.9 | 1013.4 | 3 | 003 | 60 | 6 | 1 | 1 | 5 | 6 | 8 | / | 81535 | 84361 | 87363 | 28 | Ac cas vir | |
| 29 | 86 | 7 | 24 | 08 | 17 | 21.3 | 10.2 | 49 | 7.6 | 1020.1 | 7 | 001 | 03 | 2 | 2 | 5 | 8 | 6 | 0 | 1 | 81848 | 85650 | | 29 | 4Ci80 Cu hum | |
| 30 | 80 | 7 | 21 | 10 | 19 | 23.0 | 13.2 | 54 | 9.3 | 1019.5 | 7 | 015 | 02 | 2 | 2 | 1 | 1 | 6 | 4 | 1 | 81833 | 87078 | | 30 | 1Ac64 COTRA Cu hum Parhelion+U/a cont | |
| 31 | 58 | 7 | 25 | 08 | 23 | 14.8 | 13.0 | 89 | 9.3 | 1010.7 | 3 | 013 | 58 | 6 | 2 | 1 | 1 | 4 | 2 | 8 | 81818 | 87540 | | 31 | /Ac62 /Cs70 Cu hum Clearance W CF 1430 | |

Mean vis = 31.9 km

Mean cloud = 5.5 68%

Mean wind speed = 8.5 kn

Mean gust = 18 kn

Mean TT = 22.8 °C

Mean TdTd = 12.2 °C

Mean RH = 53.5 %

Mean r = 8.9 g/kg

Mean PPP = 1013.9 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 2019 | Hour | 01-Aug | 02-Aug | 03-Aug | 04-Aug | 05-Aug | 06-Aug | 07-Aug | 08-Aug | 09-Aug | 10-Aug | 11-Aug | 12-Aug | 13-Aug | 14-Aug | 15-Aug | 16-Aug |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|
| 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 | 0.02 | 0.00 | 0.11 | 0.05 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| 5 | 0.00 | 0.39 | 0.97 | 0.12 | 0.00 | 0.63 | 0.72 | 0.48 | 0.00 | 0.34 | 0.93 | 0.00 | 0.63 | 0.12 | 0.11 | 0.00 | 0.00 |
| 6 | 0.13 | 0.20 | 1.00 | 0.00 | 0.00 | 0.71 | 0.72 | 0.56 | 0.00 | 0.73 | 1.00 | 0.00 | 0.92 | 0.00 | 0.01 | 0.01 | 0.00 |
| 7 | 0.82 | 0.78 | 0.79 | 0.00 | 0.00 | 0.39 | 0.42 | 0.68 | 0.03 | 0.61 | 0.95 | 0.01 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 8 | 0.38 | 0.68 | 0.50 | 0.27 | 0.01 | 0.51 | 0.06 | 0.66 | 0.77 | 0.08 | 0.24 | 0.43 | 1.00 | 0.00 | 0.48 | 0.00 | 0.00 |
| 9 | 0.00 | 0.25 | 0.40 | 0.03 | 0.48 | 0.36 | 0.17 | 0.51 | 0.78 | 0.10 | 0.43 | 0.02 | 0.83 | 0.00 | 0.05 | 0.00 | 0.00 |
| 10 | 0.27 | 0.06 | 0.08 | 0.00 | 0.58 | 0.50 | 0.61 | 0.78 | 0.67 | 0.17 | 0.63 | 0.18 | 0.40 | 0.00 | 0.28 | 0.00 | 0.00 |
| 11 | 0.30 | 0.47 | 0.17 | 0.00 | 0.71 | 0.36 | 0.00 | 0.56 | 0.35 | 0.03 | 0.46 | 0.00 | 0.51 | 0.00 | 0.21 | 0.00 | 0.00 |
| 12 | 0.54 | 0.44 | 0.00 | 0.44 | 0.69 | 0.66 | 0.25 | 0.33 | 0.12 | 0.38 | 0.18 | 0.00 | 0.79 | 0.00 | 0.43 | 0.00 | 0.00 |
| 13 | 0.83 | 0.65 | 0.00 | 0.36 | 0.61 | 0.62 | 0.37 | 0.00 | 0.44 | 0.27 | 0.01 | 0.23 | 0.64 | 0.00 | 0.29 | 0.00 | 0.00 |
| 14 | 0.88 | 0.35 | 0.05 | 0.18 | 0.44 | 0.66 | 0.49 | 0.01 | 0.17 | 0.39 | 0.24 | 0.08 | 0.74 | 0.00 | 0.79 | 0.00 | 0.00 |
| 15 | 0.94 | 0.87 | 0.00 | 0.00 | 0.39 | 0.76 | 0.30 | 0.16 | 0.12 | 0.37 | 0.42 | 0.02 | 0.91 | 0.00 | 0.89 | 0.00 | 0.00 |
| 16 | 0.47 | 0.96 | 0.09 | 0.00 | 0.81 | 0.60 | 0.66 | 0.27 | 0.27 | 0.18 | 0.68 | 0.62 | 0.90 | 0.00 | 0.00 | 0.00 | 0.00 |
| 17 | 0.73 | 0.96 | 0.00 | 0.00 | 0.27 | 0.00 | 0.88 | 0.78 | 0.25 | 0.64 | 0.97 | 0.32 | 0.91 | 0.00 | 0.10 | 0.00 | 0.00 |
| 18 | 0.10 | 0.45 | 0.53 | 0.00 | 0.43 | 0.20 | 0.71 | 0.00 | 0.01 | 0.85 | 0.45 | 0.23 | 0.78 | 0.00 | 0.42 | 0.00 | 0.00 |
| 19 | 0.00 | 0.18 | 0.35 | 0.02 | 0.04 | 0.00 | 0.37 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.03 | 0.00 | 0.32 | 0.00 | 0.00 |
| 20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tot | 6.39 | 7.67 | 4.94 | 1.46 | 5.48 | 7.06 | 6.80 | 5.91 | 3.99 | 5.14 | 7.57 | 2.30 | 10.99 | 0.12 | 5.36 | 0.01 | 0.00 |

| Hour | 17-Aug | 18-Aug | 19-Aug | 20-Aug | 21-Aug | 22-Aug | 23-Aug | 24-Aug | 25-Aug | 26-Aug | 27-Aug | 28-Aug | 29-Aug | 30-Aug | 31-Aug | Mean |
|------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|---------------|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| 5 | 0.89 | 0.00 | 0.00 | 0.09 | 0.84 | 0.78 | 0.44 | 0.64 | 0.20 | 0.65 | 0.60 | 0.00 | 0.55 | 0.06 | 0.00 | 0.36 |
| 6 | 1.00 | 0.05 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 1.00 | 0.00 | 1.00 | 0.55 | 0.99 | 0.56 |
| 7 | 1.00 | 0.00 | 0.52 | 1.00 | 0.43 | 1.00 | 1.00 | 0.88 | 1.00 | 1.00 | 1.00 | 0.66 | 1.00 | 0.33 | 0.48 | 0.61 |
| 8 | 0.97 | 0.00 | 0.92 | 1.00 | 0.59 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94 | 0.84 | 1.00 | 0.25 | 0.64 | 0.59 |
| 9 | 0.35 | 0.16 | 0.54 | 0.96 | 1.00 | 1.00 | 0.68 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94 | 1.00 | 0.66 | 0.61 | 0.53 |
| 10 | 0.31 | 0.58 | 0.38 | 0.65 | 0.97 | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.60 | 1.00 | 0.57 |
| 11 | 0.98 | 0.56 | 0.22 | 0.36 | 0.59 | 0.84 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.89 | 0.91 | 0.53 |
| 12 | 0.52 | 0.29 | 0.47 | 0.61 | 0.30 | 0.27 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.68 | 0.91 | 1.00 | 0.37 | 0.51 |
| 13 | 0.82 | 0.53 | 0.60 | 0.81 | 0.33 | 0.09 | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 0.79 | 0.43 | 0.97 | 0.00 | 0.50 |
| 14 | 0.95 | 0.48 | 0.71 | 0.88 | 0.92 | 0.28 | 1.00 | 1.00 | 1.00 | 1.00 | 0.64 | 0.07 | 0.11 | 0.76 | 0.00 | 0.49 |
| 15 | 0.10 | 0.46 | 0.95 | 0.94 | 0.72 | 0.19 | 1.00 | 1.00 | 1.00 | 1.00 | 0.69 | 0.06 | 0.00 | 0.97 | 0.18 | 0.50 |
| 16 | 0.30 | 0.24 | 0.93 | 0.93 | 0.55 | 0.51 | 0.93 | 1.00 | 1.00 | 1.00 | 1.00 | 0.07 | 0.16 | 1.00 | 0.92 | 0.55 |
| 17 | 0.00 | 0.08 | 1.00 | 1.00 | 0.81 | 0.01 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.89 | 1.00 | 0.94 | 0.57 |
| 18 | 0.07 | 0.03 | 1.00 | 0.65 | 0.30 | 0.46 | 0.97 | 0.98 | 0.89 | 0.85 | 0.25 | 0.00 | 0.53 | 0.69 | 0.87 | 0.44 |
| 19 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 |
| 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 | 8.27 | 3.46 | 8.27 | 10.88 | 9.34 | 8.40 | 13.02 | 13.49 | 12.98 | 13.50 | 12.02 | 6.11 | 9.57 | 9.75 | 7.90 | 228.22 |

| AUGUST 2019 | 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 | 18.60 | 24.7 | 1532 | 12.4 | 432 | 73.3 | 94.5 | 446 | 45.4 | 1526 | 13.4 | 9.5 | 11.0 | 1321 | 8.3 | 1519 | 1017.37 | 1018.7 | 2321 | 1016.1 | 1644 | 0 |
| 2 | 19.27 | 25.3 | 1720 | 13.4 | 426 | 71.6 | 97.5 | 504 | 44.5 | 1724 | 13.6 | 9.6 | 11.1 | 1428 | 8.6 | 1639 | 1019.17 | 1019.9 | 904 | 1018.3 | 1730 | 0 |
| 3 | 18.56 | 24.1 | 1447 | 12.7 | 431 | 77.3 | 98.0 | 547 | 52.6 | 1412 | 14.1 | 9.9 | 11.2 | 1345 | 8.8 | 432 | 1018.59 | 1020.3 | 700 | 1016.5 | 1822 | 0 |
| 4 | 18.98 | 26.7 | 1357 | 12.2 | 304 | 76.0 | 98.4 | 500 | 48.8 | 1323 | 14.2 | 10.1 | 11.5 | 820 | 8.6 | 306 | 1013.05 | 1016.7 | 2 | 1010.6 | 1637 | 0 |
| 5 | 19.12 | 24.9 | 1416 | 14.7 | 2347 | 70.9 | 94.5 | 743 | 41.7 | 1417 | 13.2 | 9.5 | 12.4 | 854 | 7.4 | 1226 | 1009.72 | 1011.6 | 32 | 1008.6 | 1702 | 0.7 |
| 6 | 18.49 | 24.5 | 1334 | 14.8 | 2358 | 76.0 | 95.0 | 2052 | 48.9 | 1334 | 13.8 | 9.8 | 11.2 | 1818 | 8.9 | 1044 | 1007.56 | 1010.2 | 0 | 1005.0 | 1732 | 2.3 |
| 7 | 17.72 | 22.7 | 1436 | 13.7 | 430 | 75.0 | 94.5 | 434 | 50.2 | 1612 | 12.9 | 9.3 | 10.9 | 1211 | 8.2 | 1911 | 1006.97 | 1009.8 | 2354 | 1005.4 | 340 | 1 |
| 8 | 18.36 | 23.5 | 1140 | 12.9 | 329 | 76.3 | 93.4 | 2333 | 48.8 | 1128 | 13.8 | 9.9 | 12.0 | 2155 | 8.2 | 1102 | 1009.39 | 1011.1 | 810 | 1005.6 | 2358 | 1.3 |
| 9 | 19.67 | 24.5 | 1113 | 16.6 | 309 | 80.3 | 97.6 | 337 | 52.3 | 1113 | 16.0 | 11.4 | 13.9 | 807 | 9.8 | 1103 | 1000.18 | 1005.8 | 0 | 997.1 | 2351 | 1.5 |
| 10 | 18.08 | 22.3 | 1245 | 15.5 | 2357 | 73.9 | 93.3 | 135 | 56.3 | 1244 | 13.2 | 9.5 | 11.6 | 1352 | 8.5 | 2358 | 1004.54 | 1011.2 | 2316 | 996.9 | 37 | 1.6 |
| 11 | 17.59 | 22.7 | 1457 | 13.9 | 2357 | 70.3 | 87.7 | 2357 | 49.8 | 1733 | 11.9 | 8.6 | 9.3 | 1442 | 7.2 | 1733 | 1011.23 | 1013.6 | 2356 | 1009.8 | 1545 | 0 |
| 12 | 15.12 | 19.9 | 1316 | 11.4 | 2346 | 74.2 | 95.5 | 349 | 43.3 | 1735 | 10.2 | 7.7 | 9.6 | 1449 | 5.6 | 1735 | 1014.98 | 1018.2 | 2247 | 1013.3 | 0 | 1 |
| 13 | 15.85 | 22.3 | 1516 | 9.5 | 518 | 65.6 | 93.6 | 533 | 31.1 | 1509 | 8.5 | 6.9 | 8.4 | 2359 | 5.0 | 1509 | 1017.55 | 1018.7 | 735 | 1016.3 | 1614 | 0 |
| 14 | 15.45 | 17.3 | 1745 | 13.5 | 257 | 92.9 | 96.1 | 2147 | 83.7 | 0 | 14.3 | 10.2 | 11.6 | 2027 | 8.4 | 2 | 1011.96 | 1017.5 | 10 | 1007.5 | 1914 | 7.9 |
| 15 | 17.38 | 22.5 | 1430 | 12.5 | 2355 | 73.4 | 94.8 | 0 | 43.1 | 1434 | 12.1 | 8.8 | 11.1 | 0 | 7.1 | 1413 | 1012.87 | 1017.9 | 2208 | 1008.0 | 39 | 0 |
| 16 | 15.51 | 18.0 | 1100 | 11.4 | 227 | 89.2 | 96.3 | 2358 | 69.6 | 1004 | 13.7 | 9.8 | 11.7 | 2355 | 8.0 | 226 | 1010.59 | 1017.3 | 30 | 1003.1 | 2341 | 7.2 |
| 17 | 17.77 | 22.9 | 1455 | 13.6 | 525 | 76.9 | 96.7 | 548 | 48.0 | 1502 | 13.3 | 9.6 | 11.8 | 28 | 7.9 | 1401 | 1004.60 | 1005.8 | 2038 | 1002.9 | 213 | 1.3 |
| 18 | 15.88 | 21.5 | 1524 | 12.4 | 2359 | 80.3 | 94.5 | 2123 | 44.6 | 1520 | 12.2 | 8.9 | 10.4 | 1023 | 7.0 | 1520 | 1005.71 | 1010.5 | 2350 | 1002.6 | 656 | 7 |
| 19 | 15.77 | 20.9 | 1428 | 11.6 | 133 | 72.9 | 93.6 | 136 | 42.0 | 1634 | 10.5 | 7.9 | 10.3 | 1128 | 5.9 | 1634 | 1014.54 | 1019.7 | 2332 | 1010.3 | 0 | 0.5 |
| 20 | 15.17 | 21.0 | 1346 | 9.7 | 338 | 66.7 | 95.3 | 453 | 36.9 | 1402 | 8.3 | 6.7 | 8.2 | 747 | 5.2 | 1421 | 1023.25 | 1027.2 | 2341 | 1019.3 | 110 | 0 |
| 21 | 15.71 | 22.6 | 1236 | 8.4 | 427 | 71.7 | 97.7 | 601 | 42.6 | 1405 | 10.0 | 7.5 | 9.4 | 914 | 6.5 | 426 | 1026.39 | 1028.1 | 704 | 1024.6 | 1716 | 0 |
| 22 | 17.54 | 23.4 | 1412 | 11.3 | 525 | 75.0 | 96.0 | 541 | 52.0 | 1412 | 12.6 | 9.0 | 9.9 | 1133 | 7.8 | 523 | 1024.77 | 1025.9 | 2341 | 1023.7 | 1708 | 0 |
| 23 | 18.65 | 27.0 | 1512 | 11.7 | 526 | 74.5 | 98.7 | 603 | 42.9 | 1539 | 13.3 | 9.4 | 11.2 | 1345 | 8.2 | 526 | 1023.79 | 1026.0 | 714 | 1021.4 | 1739 | 0 |
| 24 | 19.03 | 29.7 | 1501 | 9.3 | 444 | 69.2 | 98.8 | 620 | 24.0 | 1618 | 11.6 | 8.5 | 11.5 | 926 | 5.9 | 1618 | 1018.82 | 1021.9 | 2 | 1016.4 | 1809 | 0 |
| 25 | 21.92 | 32.5 | 1317 | 12.1 | 531 | 63.6 | 97.0 | 537 | 24.4 | 1239 | 12.6 | 9.1 | 12.2 | 959 | 7.0 | 1713 | 1017.67 | 1019.5 | 2347 | 1016.7 | 1445 | 0 |
| 26 | 21.68 | 31.6 | 1409 | 12.7 | 515 | 67.2 | 97.7 | 634 | 31.2 | 1526 | 14.0 | 9.9 | 12.0 | 906 | 8.4 | 1800 | 1017.23 | 1019.5 | 15 | 1015.1 | 1728 | 0 |
| 27 | 22.33 | 32.6 | 1451 | 13.7 | 507 | 67.7 | 97.4 | 542 | 30.5 | 1353 | 15.0 | 10.5 | 12.2 | 1109 | 9.0 | 1353 | 1014.07 | 1016.5 | 15 | 1011.5 | 1605 | 0 |
| 28 | 19.32 | 25.2 | 1206 | 14.4 | 2355 | 73.3 | 95.9 | 450 | 37.4 | 1307 | 13.9 | 9.9 | 11.5 | 819 | 7.1 | 1307 | 1013.84 | 1016.5 | 2359 | 1012.8 | 1341 | 0.6 |
| 29 | 16.20 | 22.4 | 1237 | 9.7 | 507 | 73.4 | 96.4 | 612 | 43.4 | 1306 | 10.9 | 8.0 | 9.0 | 945 | 7.0 | 1311 | 1019.87 | 1022.1 | 2358 | 1016.3 | 0 | 0 |
| 30 | 17.46 | 24.4 | 1307 | 12.2 | 152 | 74.7 | 95.9 | 249 | 47.4 | 1309 | 12.5 | 8.9 | 10.0 | 1349 | 7.5 | 2002 | 1020.22 | 1022.2 | 132 | 1016.7 | 2347 | 0 |
| 31 | 16.10 | 24.1 | 1218 | 11.7 | 2228 | 78.4 | 98.1 | 531 | 47.2 | 1219 | 12.0 | 8.7 | 11.0 | 1518 | 7.4 | 1702 | 1012.66 | 1016.8 | 8 | 1009.3 | 1144 | 0.8 |
| Total | | | | | | | | | | | | | | | | | | | 8 | | | 34.7 |
| Mean | 17.88 | 24.12 | | 12.43 | | 74.2 | 95.82 | | 45.31 | | 12.62 | 9.12 | 10.94 | | 7.56 | | 1014.29 | 1017.31 | | 1011.54 | | |
| Max | 22.33 | 32.60 | | 16.59 | | 92.9 | 98.80 | | 83.70 | | 15.97 | 11.42 | 13.95 | | 9.81 | | 1026.39 | 1028.05 | | 1024.63 | | |
| Min | 15.12 | 17.27 | | 8.43 | | 63.6 | 87.70 | | 23.97 | | 8.28 | 6.73 | 8.23 | | 5.04 | | 1000.18 | 1005.83 | | 996.90 | | |

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

WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

Lat 51°25'N 00°51'W NGR (SU)798701 Altitude 46m ASL

Seasonal Means and Totals

SUMMER 2019

| | | | | | | | | | |
|--|-----------|-----------|--------------|----------------|----------------------------|-------------|------------|---------|-------|
| Temperature (°C) | | | | | Rank in the past 138 years | | | | |
| Mean maximum | 23.3 | (+1.3) | | | 12 th highest | | | | |
| Mean minimum | 12.3 | (+0.5) | | | 8 th highest | | | | |
| Daily mean | 17.8 | (+0.9) | | | 8 th highest | | | | |
| Rainfall total (mm) | 181.1 | (125 %) | | | 50 th highest | | | | |
| Sunshine total (hours) | 630.6 | (110 %) | | | | | | | |
| N° of: | Dry days | 57 (-1) | Wet days | 25 (+1) | | | | | |
| Days with: | Air frost | 0 (0) | Ground frost | 0 (-1) | Snow falling | 0 (0) | Snow lying | 0 (0) | |
| Thunder | 4 (-3) | Hail ≥5mm | 0 (0) | Small hail/ice | 0 (0) | Fog @09 GMT | 0 (0) | Nil sun | 3 (0) |
| Air pressure MSL : Mean @09 GMT (mbar) | 1015.3 | (-1.3) | | | | | | | |

Departure from 1981 to 2010 average shown in brackets.

Notes: **Very Mild with Rainfall and Sunshine Above Average, and Some Notable Hot Days.**

Temperature: The mean this summer is 1.2° below the record set last year, but it still ranks 8th highest in 138 years. In this millennium it is the 3rd warmest summer after 2018, 2006 and 2003. This season's highest temperature was 36.8° on the 25th July, 6.5° above the median and the second highest temperature in Wokingham in the past 116 years, and only 0.1° below the record set in 2003. The lowest max was 12.6° on the 10th June, 1.9° below its median. The highest min was 18.3° on the 24th July, 1.2° above the median, and the lowest min of 6.0° was on the 9th June, 1.7° above its median. The mean grass min was 9.5°, 0.6° above average, and the lowest was 0.5° on the 9th June, close to average but lowest since 2015, the last summer to have a ground frost. Mean earth temperature at 30cm depth was 18.6°, anomaly +0.5°, and at 1 m depth, 17.5°, anomaly +1.0°. In terms of the monthly mean temperature, June was the coolest month with 15.8° and July the warmest with 19.1°. There were notable hot days in each of this summer's months, 33.6° on 27th June, 36.8° on 25th July, 32.5°, 31.6° and 32.6° on the 25th to 27th August. **Rainfall:** This has been quite a wet summer with 25% more rainfall than average. There was, however, an appreciable amount of dry weather, the number of dry days being exactly average. There was very little rain between the 20th June and 16th July, including a 22 day dry spell ending on that date, also after the 18th August there was only 1.1 mm of rain, and a 7 day dry spell ended on the 26th. There was a notable rainfall event on the 10th June when 57.1 mm fell, making it the 2nd highest summer rainfall day in 116 years, the record being 61.6 mm in 2011. Interestingly, without that single very large fall, this summer's total would have been 14 % below average. June was the wettest month with 11.7 mm, 227 % of average, and August the driest with 33.2 mm, 66 % of average. Rainfall rate reached the violent category on 3 days, 10th June, 72 mm/hr, 24th July, 71 mm/hr and 18th August 107 mm/hr. Thunder was heard on the 23rd and 24th July and the 27th and 28th August. Rainfall duration was highest on the 10th June when 14.7 hours was recorded. Estimated soil moisture deficit indicated that shallow rooted unirrigated plants would have been under moderate stress for a short time at the beginning of June, and continuously after the 9th July, the stress reaching severe temporarily around mid August and again at the end of that month. An index of plant stress for the summer season gave a value of 538 or 42 % of the maximum, the median since 1976 being 621. **Sunshine:** This summer's sunshine is 10 % above average but the total is less than last year's. In this millennium, 6 summers have been sunnier and 13 duller. The sunniest day was the 4th July with 15.2 hours. The sunniest month was August, daily mean 7.37 hours, anomaly 116 %, then July with 7.34 hr, anomaly 114 %, and lastly June with 5.82 hr, 89%. The 4 day period to the 13th June was notably dull having a total of only 0.6 hours, but the 9 days to the 5th July more than made up for this having a total of 113.0 hours, a mean of 12.6 hours per day, and the 3 days to the 25th July had a mean of 12.9 hours per day, also the 5 days to the 27th August saw 13.0 hours per day. Overall there were 21 days with <3 hours, 52 with =>6 hours, 29 with =>9 hours, 16 with =>12 hours and 1 with =>15 hours. **Wind:** The mean speed this summer was 6.5 mph, 0.3 mph above average, but highest only since 2017. The season's windiest day was the 10th August, mean 16.2 mph, equal highest with 2012 since 1994, and the highest gust of 44 mph was also on that day. The 18th June was the least windy day with 2.8 mph, and there were 1686 minutes of calm. Daily mean direction/number of days; N,9 NE,7 E,3 SE,6 S,19 SW,38 W,7 NW, 3. Compared with average, winds from S and SW combined were 12.5% more frequent at the expense of W and NW combined, 13.1% less frequent. **Humidity:** The overall mean relative humidity was 74.0% and the lowest was 24% on the 24th August. The mean water vapour content per kg of air was 9.4g at 0900 GMT and 8.9g at 1500 GMT. **Pressure:** The season's highest pressure, corrected to MSL, was 1029.9 mbar on the 27th June and the lowest was 996.9 mbar on the 10th August, a span of 33.0 mbar, average 35.3 mbar. **June:** Dull and very wet with near average temperature. Highest max 2nd highest in 116 years. Rainfall 6th highest in 138 years. 57.1 mm fell on the 10th, highest for a June day since before 1904, also the 5th highest daily fall at any time in that period. **July:** Very warm and sunny with rainfall below average. Record breaking heatwave. 25th, max 36.8°, a new July record, only 0.1° below the highest temperature in Wokingham in 116 years. Lowest max 7th highest in 107 years. **August:** Warm, dry and sunny with a heatwave late in month. The lowest min is 5th highest in 116 years. Mean earth temperature at 1 m depth highest since before 1989. Heatwave 25th to 27th with daily max ~32°, also exceptional sunshine in 5 days to 27th, mean 13.0 hours per day.

| Month | Mean Max | Anom | Mean Min | Anom | Rain mm | Anom | Sun hrs | Anom | Mean Wind mph | Max gust | Mean pressure | Anom |
|--------|----------|-------|----------|-------|---------|------|---------|------|---------------|----------|---------------|------|
| June | 20.9° | +0.4° | 10.7° | +0.2° | 111.7 | 227% | 174.7 | 89% | 6.6 | 36 | 1014.8 | -2.3 |
| July | 24.7° | +1.8° | 13.5° | +0.9° | 36.2 | 80% | 227.4 | 114% | 6.0 | 29 | 1016.4 | -0.2 |
| August | 24.2° | +1.6° | 12.7° | +0.3° | 33.2 | 66% | 228.5 | 116% | 6.9 | 44 | 1014.7 | -1.6 |

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.