

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 2013

| | | | | | | | | | | | | |
|-----------------------------------|--------|---------------------|-----------------------------------|---------------------|--------------------------------------------|------------|---------------------|---------------------|---|--|--|--|
| Temperature (°C / °F) | | | | Anomaly | Rank in the past 132 years | | | | | | | |
| Mean maximum | 19.2 | 66.6 | -0.2 | | 53 rd highest | | | | | | | |
| Mean minimum | 9.5 | 49.1 | -0.5 | | 49 th highest | | | | | | | |
| Daily mean | 14.4 | 57.9 | -0.3 | | 47 th highest | | | | | | | |
| Highest maximum | 28.3 | 82.9 | on 5 th | | Lowest maximum | 13.8 | 56.8 | on 14 th | | | | |
| Highest minimum | 14.2 | 57.6 | on 22 nd | | Lowest minimum | 3.8 | 38.8 | on 15 th | | | | |
| Mean grass minimum | 6.2 | 43.2 | -0.5 | | Lowest grass minimum | -0.9 | 30.4 | on 15 th | | | | |
| Mean earth @30 cm | 16.4 | 61.5 | 0.0 | | Earth @100 cm | 16.5 | 61.7 | | | | | |
| Frost duration (hrs) | 0.0 | | | | Rain duration (hrs) | 37.1 | | | | | | |
| Rainfall total (mm / in) | 44.4 | 1.75 | 83 % | | 61 st lowest | | | | | | | |
| Highest daily fall | 23.2 | 0.91 | on 13 th | | | | | | | | | |
| Number of: Dry days (<0.2mm) | 17 | Wet days (>0.9mm) | 5 | days ≥5mm | 2 | | | | | | | |
| Sunshine total (hrs) | 118.6 | Daily mean | 3.95 | 83% | Sunniest day | 13.1 | on 2 nd | | | | | |
| N° days with: Air frost | 0 | Ground frost | 1 | Snow falling | 0 | Snow lying | 0 | | | | | |
| Thunder | 0 | Hail ≥5mm | 0 | Small hail/ice | 0 | Fog @09 | 1 | Nil sun | 2 | | | |
| Pressure MSL : Mean @09 GMT, mbar | 1016.4 | -0.3 | Highest | 1031.7 | on 1 st | Lowest | 993.8 | on 17 th | | | | |
| Relative humidity : Mean (%) | 80.1 | Lowest | 24 | on 4 th | Water vapour (g/kg), mean at 09 and 15 GMT | 8.3, | 8.1 | | | | | |
| Overall mean wind speed (mph) | 5.0 | Windiest day | 9.6 | on 16 th | Max gust | 37 | on 16 th | | | | | |
| Wind direction (days) | N 2 | NE 5 | E 2 | SE 1 | S 3 | SW 8 | W 5 | NW 4 | | | | |
| Least windy day (mph) | 2.0 | on 24 th | Calm; less than 0.5 mph (minutes) | 1041 | | | | | | | | |

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

Notes:

Temperature, Rainfall and Sunshine Below Average.

Temperature: In terms of the mean maximum, this September is almost identical to last year's. However, the mean minimum this year is 1.2° higher than last year's, and the resulting daily mean temperature is 0.6° higher. These temperatures are a little below the current climatological average, but the daily mean is 0.4° above the long-term median. In the first 13 years of this millennium 4 Septembers have been cooler and 2 the same as this one. The highest max is 3.9° above the median, and highest for the month since 2006. The lowest max is close to the median. The highest min is 1.0° below the median but the lowest min is 1.0° above its median. The mean grass min is 0.5° below average, and the first ground frost of the winter half year occurred on the 15th after 96 frost-free days. Earth temperature at 30cm depth is exactly average, but is slightly below average at 1 m depth. **Rainfall:** This September continued the dry theme prevalent throughout the summer. However, the total is only 17% below average. The rainfall on the 13th, the month's wettest day, accounted for 52% of the month's total. The duration of measurable rain is slightly above the average for the past 21 years, and is highest since 2001. Although there were 3 fewer wet days (1.0 mm or more) than average, the number of dry days is also 1 below average. A dry spell of 11 days ended on the 4th, and another of 5 days ended on the 24th. There was no thunder or hail this month. The highest rainfall rate was 29 mm/hr on the 9th. **Sunshine:** This past month has been rather poor in this respect, and it is the dullest September since 2001. Although the month got off to a good start, with an accumulated surplus of 23 hours by the 5th, this was entirely lost by the 20th, and was replaced by a deficit of 24 hours by the 30th. Overall there were 15 days with <3 hours, 5 with =>6 hours, 3 with =>9 hours and 2 with =>12 hours.

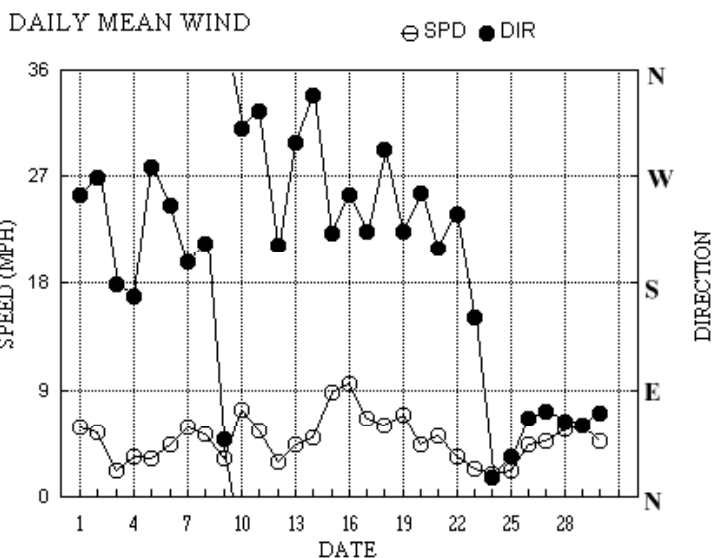
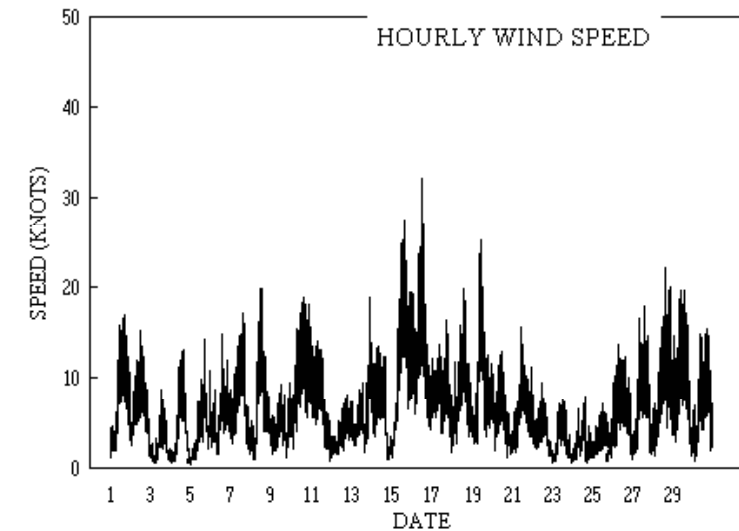
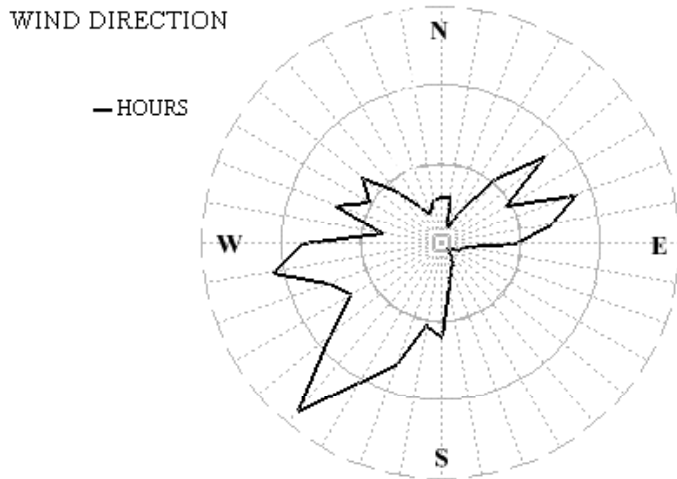
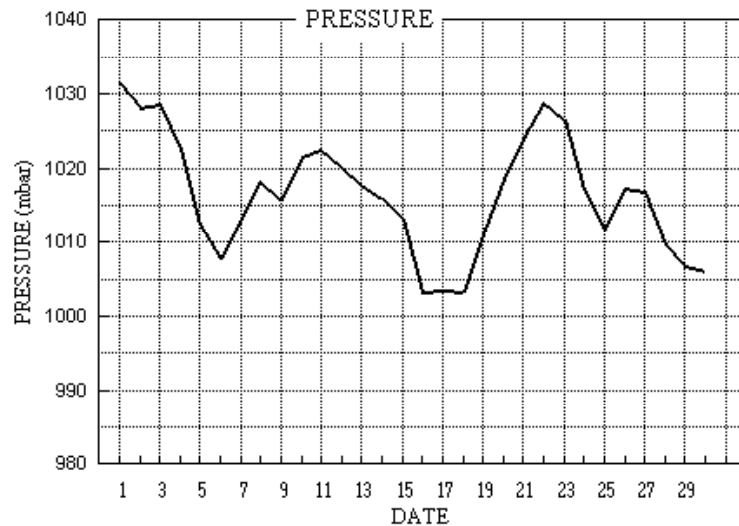
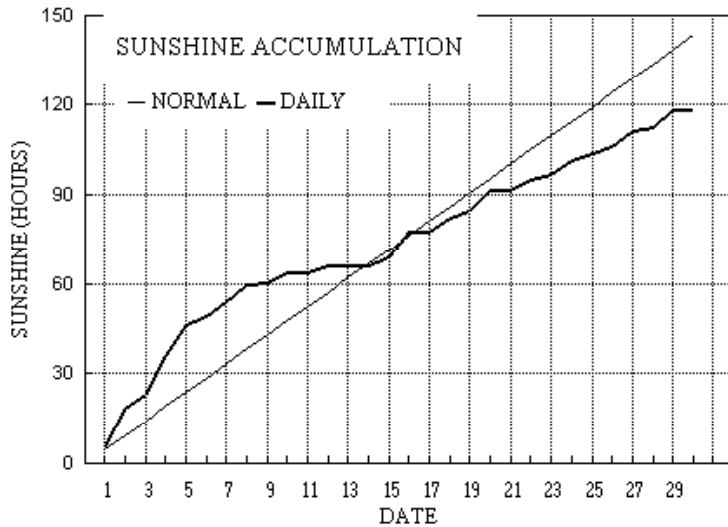
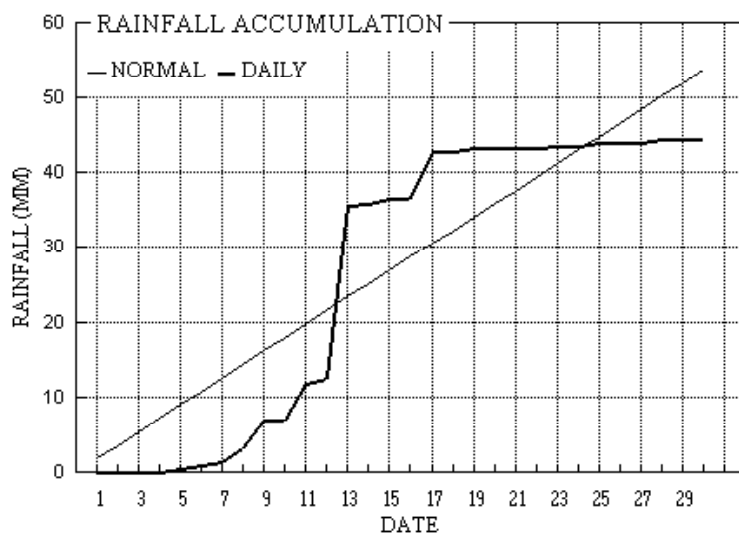
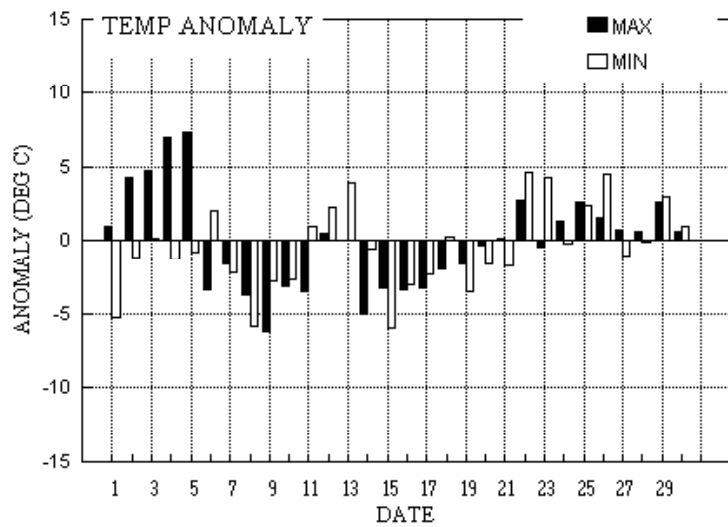
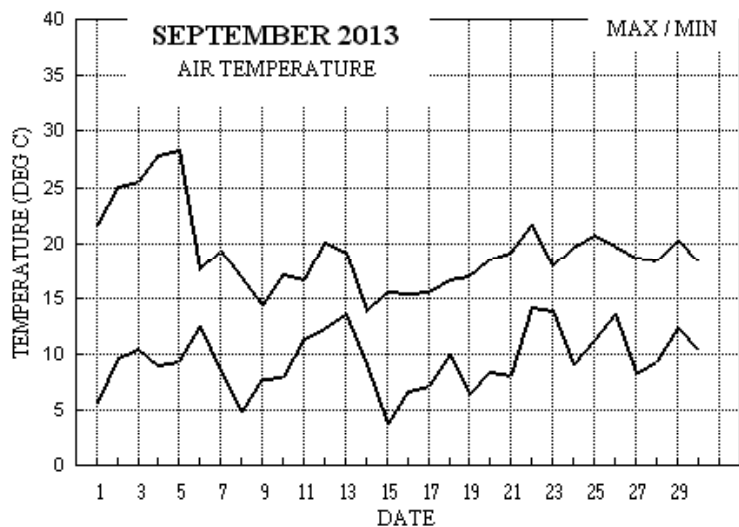
Commentary: From the 1st to the 5th : Temperatures were above normal by day, with anomalies up to +7.3° on the 5th. Some nights were cool though, with anomalies down to -5.2° on the 1st. It was dry and quite sunny, especially the 2nd and 4th. Winds between S and W were moderate on 1st then light. **From the 6th to the 17th :** Temperatures were mostly below normal, with anomalies for daily max between +0.6° on the 12th and -6.2° on the 9th, also -5.1° on the 14th. For daily min, anomalies were between +4.0° on the 13th and -5.9° on the 8th and 15th. This period was quite wet, especially on the 13th when 23.2 mm fell, and there were only 3 dry days. Sunshine was generally very poor, with 8 days having <25% of the maximum. Light or moderate winds were SW'ly until the 8th, then mainly NW'ly until the 15th when they became fresh SW'ly. **From the 18th to the 30th :** Temperatures were generally near normal, with anomalies for daily max between +2.7° on the 22nd and 25th and -1.9° on the 18th. Daily min were similar, with anomalies between +4.5° on the 22nd and 26th, and -3.5° on the 19th. There was not much rain, only 1.7 mm in total and 10 dry days. Sunshine was still poor, with 59% of the max on the 20th the best daily showing. Moderate or fresh SW'ly winds at first dropped light on the 20th and backed NE'ly on the 24th.

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 | | | |
|--------------------------------------------------|-------|-----|------|---------------------------------------------------|-------|------|-----|---------------------------------------------------|-------|----|-----|
| +0.6° | -2.0° | 39% | 134% | -2.2° | -0.9° | 201% | 59% | +1.3° | +1.7° | 6% | 57% |

B J Burton FRMetS. Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for September 2013



Daily meteorological data.

Emmbrook, WOKINGHAM, Berkshire.

Month: SEPTEMBER 2013

| 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 mean ddd ff sp | Max gust ddd gg HHhh | High hr ddd ff HH | Rain hrs | | | | | | | |
|------------|----------|----------|------------|--------------|-----------|------------|------------|--------------|--------------|----------|----------|----------|----------|-----------------------|-------------------------|----------------------|-------------|----|------|-----|----|----|------|------|
| 1 | 21.7 | 5.6 | 0.0 | 1.8 | 18.1 | 17.6 | 5.7 | 0.0 | 1031.3 | 0 | 0 | 0 | 0 | 255 | 4.9 | 5.1 | 253 | 17 | 1714 | 254 | 9 | 17 | 0.0 | |
| 2 | 25.1 | 9.7 | 0.0 | 4.9 | 17.9 | 17.5 | 13.1 | 0.0 | 1028.0 | 0 | 0 | 0 | 0 | 269 | 4.3 | 4.7 | 342 | 15 | 1358 | 294 | 7 | 13 | 0.0 | |
| 3 | 25.6 | 10.5 | 0.0 | 7.1 | 18.2 | 17.5 | 4.7 | 0.0 | 1028.5 | 0 | 0 | 0 | 0 | 179 | 1.5 | 1.8 | 162 | 9 | 1411 | 230 | 4 | 12 | 0.0 | |
| 4 | 27.9 | 9.0 | 0.0 | 5.5 | 18.2 | 17.4 | 12.5 | 0.0 | 1022.5 | 0 | 0 | 0 | 0 | 168 | 2.1 | 2.9 | 161 | 13 | 1633 | 170 | 6 | 16 | 0.0 | |
| 5 | 28.3 | 9.3 | 0.5 | 6.2 | 18.2 | 17.4 | 10.4 | 0.0 | 1012.4 | 0 | 0 | 0 | 0 | 278 | 2.5 | 2.8 | 219 | 14 | 1621 | 262 | 7 | 17 | 0.6 | |
| 6 | 17.6 | 12.5 | 0.5 | 10.3 | 18.6 | 17.4 | 2.8 | 0.0 | 1007.8 | 0 | 0 | 0 | 0 | 246 | 2.7 | 3.8 | 260 | 15 | 1443 | 254 | 7 | 14 | 1.0 | |
| 7 | 19.3 | 8.4 | 0.4 | 3.4 | 17.6 | 17.4 | 5.0 | 0.0 | 1013.0 | 0 | 0 | 0 | 0 | 198 | 4.8 | 5.1 | 218 | 17 | 1453 | 191 | 9 | 12 | 0.3 | |
| 8 | 16.8 | 4.8 | 1.8 | 0.3 | 16.9 | 17.3 | 5.9 | 0.0 | 1018.2 | 0 | 0 | 0 | 0 | 213 | 4.3 | 4.6 | 261 | 20 | 1304 | 225 | 9 | 13 | 2.9 | |
| 9 | 14.3 | 7.8 | 3.7 | 3.2 | 16.6 | 17.2 | 0.2 | 0.0 | 1015.7 | 0 | 0 | 0 | 0 | 48 | 0.6 | 2.8 | 306 | 10 | 2326 | 298 | 5 | 23 | 1.7 | |
| 10 | 17.2 | 7.9 | tr | 4.0 | 16.1 | 17.1 | 3.5 | 0.0 | 1021.6 | 0 | 0 | 0 | 0 | 310 | 6.3 | 6.4 | 299 | 19 | 1507 | 308 | 10 | 15 | 0.0 | |
| 11 | 16.7 | 11.4 | 4.9 | 9.9 | 16.1 | 16.9 | 0.2 | 0.0 | 1022.5 | 0 | 0 | 0 | 0 | 325 | 4.4 | 4.9 | 322 | 16 | 0058 | 356 | 7 | 09 | 8.7 | |
| 12 | 20.1 | 12.3 | 0.7 | 12.2 | 16.2 | 16.7 | 2.2 | 0.0 | 1020.1 | 0 | 0 | 0 | 0 | 212 | 2.0 | 2.6 | 170 | 8 | 2001 | 176 | 5 | 19 | 1.4 | |
| 13 | 19.1 | 13.6 | 23.2 | 12.3 | 16.9 | 16.6 | 0.0 | 0.0 | 1017.8 | 0 | 0 | 0 | 0 | 299 | 1.3 | 3.8 | 1 | 19 | 2306 | 4 | 9 | 22 | 11.2 | |
| 14 | 13.8 | 9.0 | 0.1 | 8.1 | 16.9 | 16.6 | 0.3 | 0.0 | 1016.0 | 0 | 0 | 0 | 0 | 338 | 3.5 | 4.4 | 350 | 14 | 0001 | 347 | 7 | 00 | 0.1 | |
| 15 | 15.6 | 3.8 | 0.8 | -0.9 | 15.8 | 16.6 | 2.9 | 0.0 | 1013.0 | 0 | 1 | 0 | 0 | 223 | 7.2 | 7.6 | 207 | 28 | 1528 | 220 | 13 | 15 | 1.2 | |
| 16 | 15.4 | 6.7 | tr | 2.0 | 15.2 | 16.5 | 8.2 | 0.0 | 1003.3 | 0 | 0 | 0 | 0 | 255 | 7.9 | 8.3 | 263 | 32 | 1315 | 277 | 12 | 13 | 0.0 | |
| 17 | 15.6 | 7.2 | 6.1 | 2.4 | 14.7 | 16.3 | 0.1 | 0.0 | 1003.5 | 0 | 0 | 0 | 0 | 224 | 5.1 | 5.8 | 257 | 17 | 1851 | 215 | 8 | 10 | 4.9 | |
| 18 | 16.7 | 10.0 | tr | 9.1 | 14.9 | 16.1 | 4.7 | 0.0 | 1003.2 | 0 | 0 | 0 | 0 | 293 | 4.5 | 5.2 | 270 | 20 | 1555 | 285 | 9 | 15 | 0.0 | |
| 19 | 17.0 | 6.4 | 0.6 | 2.0 | 14.8 | 16.0 | 2.2 | 0.0 | 1010.9 | 0 | 0 | 0 | 0 | 224 | 5.6 | 6.0 | 234 | 25 | 1119 | 217 | 12 | 11 | 1.8 | |
| 20 | 18.5 | 8.4 | 0.0 | 4.2 | 14.6 | 15.9 | 7.3 | 0.0 | 1018.4 | 0 | 0 | 0 | 0 | 256 | 3.6 | 3.9 | 268 | 13 | 1205 | 263 | 6 | 13 | 0.0 | |
| 21 | 19.1 | 8.1 | tr | 3.9 | 15.0 | 15.7 | 0.0 | 0.0 | 1023.9 | 0 | 0 | 0 | 0 | 209 | 4.3 | 4.5 | 222 | 16 | 1135 | 213 | 8 | 12 | 0.0 | |
| 22 | 21.6 | 14.2 | tr | 9.8 | 15.5 | 15.7 | 3.3 | 0.0 | 1028.7 | 0 | 0 | 0 | 0 | 238 | 2.4 | 2.9 | 253 | 11 | 0027 | 256 | 5 | 00 | 0.0 | |
| 23 | 18.0 | 13.8 | 0.1 | 9.5 | 16.0 | 15.7 | 1.7 | 0.0 | 1026.4 | 0 | 0 | 0 | 0 | 151 | 1.2 | 2.0 | 186 | 8 | 1330 | 176 | 4 | 08 | 0.0 | |
| 24 | 19.6 | 9.0 | 0.0 | 5.0 | 15.8 | 15.7 | 4.7 | 0.0 | 1017.0 | 0 | 0 | 0 | 1 | 16 | 0.9 | 1.7 | 279 | 8 | 1507 | 249 | 3 | 14 | 0.0 | |
| 25 | 20.8 | 11.3 | 0.6 | 8.5 | 15.9 | 15.7 | 2.4 | 0.0 | 1011.8 | 0 | 0 | 0 | 0 | 33 | 0.8 | 1.8 | 29 | 7 | 1356 | 19 | 3 | 13 | 0.8 | |
| 26 | 19.8 | 13.6 | 0.0 | 13.4 | 16.5 | 15.7 | 2.2 | 0.0 | 1017.3 | 0 | 0 | 0 | 0 | 66 | 3.6 | 3.8 | 59 | 14 | 0812 | 94 | 5 | 15 | 0.0 | |
| 27 | 18.7 | 8.2 | 0.0 | 5.3 | 16.1 | 15.8 | 5.0 | 0.0 | 1016.9 | 0 | 0 | 0 | 0 | 71 | 4.0 | 4.1 | 66 | 18 | 1418 | 81 | 7 | 09 | 0.0 | |
| 28 | 18.4 | 9.4 | 0.4 | 5.4 | 15.8 | 15.8 | 1.5 | 0.0 | 1009.6 | 0 | 0 | 0 | 0 | 63 | 4.9 | 5.0 | 67 | 22 | 1649 | 71 | 8 | 15 | 0.5 | |
| 29 | 20.3 | 12.3 | 0.0 | 9.4 | 15.7 | 15.8 | 5.8 | 0.0 | 1006.8 | 0 | 0 | 0 | 0 | 60 | 5.1 | 5.2 | 68 | 20 | 1102 | 78 | 8 | 14 | 0.0 | |
| 30 | 18.2 | 10.3 | tr | 6.5 | 16.1 | 15.8 | 0.1 | 0.0 | 1006.1 | 0 | 0 | 0 | 0 | 70 | 3.9 | 4.1 | 91 | 16 | 1820 | 85 | 7 | 18 | 0.0 | |
| Total | | | 44.4 | | | | 118.6 | 0.0 | | | | | | | | | | | | | | | | 37.1 |
| Mean | 19.2 | 9.5 | | 6.2 | 16.4 | 16.5 | 3.95 | 0.0 | 1016.4 | | | | | 251 | 1.4 | 4.3 | | | | | | | | |
| Anom | -0.2 | -0.5 | 83% | -0.5 | -0.0 | -0.3 | 83% | | | | | | | | | | | | | | | | | |
| Daily mean | | 14.4 | | | | | | | | | | | | | | | | | | | | | | |
| Anom | | -0.3 | | | | | | | | | | | | | | | | | | | | | | |

Number of days with:

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

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT
 Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).
 Grass min = Lowest overnight temperature at grass tip level.
 Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.
 pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.
 Af = Air frost. Gf = Ground frost. Sf = Snow falling. Sl = Snow lying at 09 GMT.
 Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.
 Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.
 Sp = 24 hour mean wind speed in knots.
 Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.
 High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.
 30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.
 Anom = Departure from 1981-2010 climatological average.
 All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for SEPTEMBER 2013

| Date | VV | N | dd | ff | gg | TT | Td | RH | r | PPP | a | ppp | ww | W1 | W2 | Nh | Cl | h | Cr | Cf | NCh | shs | NCh | shs | NCh | shs | Date | Remarks |
|------|----|---|----|----|----|------|------|----|------|--------|---|-----|----|----|----|----|----|---|----|----|-------|-------|-------|-----|-----|-----|-------------------------------------------|---------|
| 1 | 80 | 7 | 28 | 05 | 08 | 14.1 | 7.8 | 66 | 6.5 | 1031.3 | 0 | 004 | 02 | 2 | 2 | 0 | 0 | 9 | 0 | 8 | 87278 | | | | | 1 | COTRA Halo 22° part | |
| 2 | 84 | 6 | 26 | 07 | 12 | 17.1 | 10.2 | 63 | 7.6 | 1028.0 | 1 | 007 | 03 | 2 | 2 | 1 | 1 | 5 | 0 | 1 | 81825 | 85078 | | | | 2 | 2Ci72 Cu fra | |
| 3 | 70 | 7 | 19 | 01 | 03 | 17.0 | 14.7 | 86 | 10.2 | 1028.5 | 1 | 005 | 03 | 1 | 1 | 7 | 5 | 6 | / | / | 81635 | 87638 | | | | 3 | | |
| 4 | 59 | 1 | 10 | 03 | 06 | 19.7 | 16.3 | 81 | 11.4 | 1022.5 | 7 | 010 | 05 | 0 | 0 | 1 | 6 | 2 | 0 | 0 | 81705 | | | | | 4 | | |
| 5 | 45 | 1 | 19 | 01 | 08 | 19.1 | 14.0 | 72 | 9.9 | 1012.4 | 8 | 803 | 05 | 4 | 1 | 1 | 0 | 9 | 3 | 1 | 81365 | | | | | 5 | 1Ci75 | |
| 6 | 61 | 8 | 35 | 02 | 03 | 13.4 | 11.5 | 88 | 8.5 | 1007.8 | 0 | 011 | 60 | 6 | 2 | 7 | 5 | 4 | 7 | / | 82712 | 86615 | 88362 | | | 6 | /Sc30 | |
| 7 | 89 | 2 | 19 | 06 | 12 | 15.4 | 9.3 | 67 | 7.3 | 1013.0 | 2 | 014 | 02 | 8 | 1 | 2 | 8 | 5 | 0 | 0 | 81823 | | | | | 7 | 2Sc40 Cu med | |
| 8 | 86 | 5 | 23 | 06 | 12 | 14.3 | 8.1 | 66 | 6.7 | 1018.2 | 3 | 001 | 14 | 1 | 1 | 1 | 8 | 5 | 6 | 3 | 81824 | | | | | 8 | 1Sc50 2Ac58 1Ac65 1Ci72 Cu hum Cb top S-W | |
| 9 | 59 | 8 | 06 | 02 | 05 | 12.5 | 11.5 | 94 | 8.4 | 1015.7 | 7 | 006 | 21 | 6 | 2 | 8 | 5 | 2 | / | / | 81705 | 86635 | 88650 | | | 9 | | |
| 10 | 75 | 2 | 33 | 08 | 16 | 13.3 | 9.4 | 77 | 7.3 | 1021.6 | 1 | 009 | 02 | 1 | 1 | 1 | 1 | 4 | 3 | 9 | 81815 | | | | | 10 | 1Ac65 2Cc70 1Ci75 COTRA Cu hum Parhelion | |
| 11 | 80 | 7 | 35 | 06 | 13 | 14.5 | 8.7 | 68 | 6.9 | 1022.5 | 4 | 000 | 03 | 2 | 2 | 7 | 8 | 5 | 3 | / | 81822 | 87640 | | | | 11 | /Ac62 Cu hum | |
| 12 | 56 | 8 | 21 | 01 | 03 | 13.4 | 12.7 | 95 | 9.0 | 1020.1 | 1 | 009 | 51 | 5 | 5 | 8 | 7 | 2 | / | / | 83704 | 87706 | 88710 | | | 12 | | |
| 13 | 58 | 8 | 24 | 04 | 07 | 18.0 | 16.7 | 92 | 11.7 | 1017.8 | 0 | 002 | 15 | 6 | 2 | 8 | 8 | 2 | / | / | 82705 | 85810 | 88625 | | | 13 | jpNW Cu med | |
| 14 | 57 | 8 | 33 | 06 | 12 | 10.5 | 9.2 | 92 | 7.2 | 1016.0 | 2 | 012 | 20 | 5 | 1 | 8 | 5 | 3 | / | / | 86708 | 88615 | | | | 14 | | |
| 15 | 63 | 6 | 22 | 08 | 16 | 12.6 | 9.8 | 83 | 7.5 | 1013.0 | 8 | 023 | 03 | 1 | 1 | 5 | 0 | 9 | 5 | 1 | 82360 | 84365 | 85075 | | | 15 | COTRA | |
| 16 | 75 | 1 | 26 | 11 | 22 | 12.3 | 4.6 | 60 | 5.3 | 1003.3 | 4 | 000 | 03 | 0 | 0 | 1 | 1 | 5 | 3 | 0 | 81828 | | | | | 16 | 1Ac60 Cu hum | |
| 17 | 66 | 8 | 22 | 07 | 13 | 10.9 | 6.2 | 73 | 5.9 | 1003.5 | 6 | 003 | 03 | 2 | 2 | 8 | 0 | 9 | 7 | / | 81358 | 88462 | | | | 17 | | |
| 18 | 65 | 7 | 30 | 05 | 10 | 12.9 | 9.3 | 79 | 7.3 | 1003.2 | 2 | 023 | 02 | 6 | 2 | 7 | 8 | 4 | / | / | 81812 | 86650 | | | | 18 | 2Sc40 Cu med | |
| 19 | 70 | 7 | 21 | 07 | 13 | 14.2 | 9.6 | 74 | 7.4 | 1010.9 | 8 | 014 | 14 | 2 | 2 | 1 | 5 | 6 | 8 | 1 | 81640 | 83362 | 85364 | | | 19 | 1Ac60 5Ac68 /Ci75 COTRA Ac cas jpN | |
| 20 | 82 | 7 | 26 | 04 | 08 | 13.4 | 8.7 | 73 | 6.9 | 1018.4 | 2 | 018 | 01 | 2 | 2 | 7 | 5 | 6 | / | / | 87630 | | | | | 20 | | |
| 21 | 61 | 8 | 20 | 06 | 10 | 14.3 | 11.0 | 80 | 8.0 | 1023.9 | 3 | 006 | 03 | 2 | 2 | 8 | 5 | 5 | / | / | 88620 | | | | | 21 | | |
| 22 | 60 | 8 | 27 | 03 | 07 | 16.8 | 15.4 | 92 | 10.7 | 1028.7 | 1 | 008 | 51 | 5 | 2 | 8 | 6 | 3 | / | / | 85706 | 88710 | | | | 22 | | |
| 23 | 59 | 8 | 20 | 04 | 07 | 16.1 | 14.5 | 90 | 10.1 | 1026.4 | 4 | 000 | 20 | 5 | 2 | 8 | 6 | 3 | / | / | 86708 | 88710 | | | | 23 | | |
| 24 | 01 | 9 | 02 | 01 | 07 | 11.6 | 11.4 | 98 | 8.3 | 1017.0 | 7 | 008 | 43 | 5 | 4 | 9 | / | / | / | / | | | | | | 24 | vv180m | |
| 25 | 11 | 8 | 04 | 01 | 06 | 14.1 | 13.7 | 97 | 9.7 | 1011.8 | 5 | 000 | 28 | 4 | 2 | 8 | 6 | 2 | / | / | 88703 | | | | | 25 | vv300m at 0800z | |
| 26 | 68 | 8 | 04 | 04 | 14 | 14.1 | 12.2 | 89 | 8.8 | 1017.3 | 2 | 019 | 02 | 2 | 2 | 8 | 5 | 4 | / | / | 85612 | 88615 | | | | 26 | | |
| 27 | 60 | 7 | 10 | 06 | 15 | 13.7 | 11.1 | 84 | 8.2 | 1016.9 | 4 | 000 | 05 | 2 | 2 | 1 | 6 | 4 | 3 | 8 | 81710 | 87272 | | | | 27 | 1Ac62 COTRA Halo 22° part | |
| 28 | 50 | 7 | 06 | 05 | 11 | 15.1 | 13.2 | 88 | 9.5 | 1009.6 | 8 | 003 | 05 | 2 | 2 | 5 | 0 | 9 | 8 | 1 | 82358 | 84364 | 86075 | | | 28 | COTRA Ac cas | |
| 29 | 65 | 7 | 06 | 06 | 16 | 14.4 | 11.3 | 82 | 8.4 | 1006.8 | 0 | 002 | 02 | 6 | 2 | 5 | 6 | 4 | 7 | / | 85712 | 87363 | | | | 29 | | |
| 30 | 58 | 7 | 07 | 05 | 10 | 15.5 | 12.9 | 85 | 9.3 | 1006.1 | 1 | 008 | 05 | 2 | 2 | 3 | 6 | 4 | 7 | / | 83710 | 83359 | 87362 | | | 30 | | |

Mean vis = 18.7 km
 Mean cloud = 6.3 79%
 Mean wind speed = 4.7 kn
 Mean gust = 10 kn
 Mean TT = 14.5 °C
 Mean TdTd = 11.2 °C
 Mean RH = 81.1 %
 Mean r = 8.3 g/kg
 Mean PPP = 1016.4 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 2013

| Date | VV | N | dd | ff | gg | TT | Td | Td | RH | r | PPP | a | ppp | ww | W1 | W2 | Nh | Cl | h | Cr | Cf | NCh | shs | NCh | shs | NCh | shs | Date | Remarks |
|------|----|---|----|----|----|------|------|----|------|--------|-----|-----|-----|----|----|----|----|----|---|----|-------|-------|-------|-----|-----|-----|-----|---------------------------|---------|
| 1 | 82 | 7 | 26 | 08 | 15 | 21.3 | 6.9 | 39 | 6.1 | 1028.6 | 7 | 014 | 02 | 2 | 2 | 2 | 0 | 9 | 4 | 1 | 82370 | 87080 | | | | | 1 | 1Cc75 COTRA | |
| 2 | 86 | 2 | 31 | 06 | 14 | 24.8 | 12.0 | 45 | 8.6 | 1025.9 | 7 | 009 | 01 | 1 | 1 | 1 | 1 | 6 | 4 | 1 | 81845 | | | | | | 2 | 1Ac65 2Ci78 Cu hum | |
| 3 | 86 | 7 | 21 | 02 | 09 | 23.7 | 12.8 | 50 | 9.0 | 1026.0 | 7 | 016 | 02 | 2 | 2 | 7 | 8 | 6 | 3 | / | 83840 | 86645 | | | | | 3 | /Ac65 Cu hum | |
| 4 | 82 | 1 | 18 | 05 | 13 | 27.6 | 8.1 | 29 | 6.7 | 1017.9 | 7 | 022 | 02 | 0 | 0 | 1 | 0 | 9 | 3 | 2 | 81370 | | | | | | 4 | 1Ci75 COTRA | |
| 5 | 70 | 2 | 30 | 03 | 09 | 26.5 | 11.0 | 38 | 8.2 | 1008.5 | 7 | 018 | 03 | 0 | 0 | 1 | 1 | 7 | 3 | 1 | 81856 | | | | | | 5 | 1Ac65 1Ci80 COTRA Cu hum | |
| 6 | 82 | 5 | 26 | 06 | 15 | 15.9 | 10.1 | 68 | 7.7 | 1008.5 | 1 | 006 | 25 | 8 | 2 | 5 | 8 | 5 | 3 | 0 | 82822 | 83656 | | | | | 6 | 1Ac65 Cu med | |
| 7 | 82 | 6 | 20 | 08 | 17 | 17.0 | 7.0 | 52 | 6.2 | 1014.6 | 2 | 008 | 80 | 8 | 1 | 5 | 8 | 6 | 6 | / | 83840 | 83656 | | | | | 7 | 2Ac60 Cu con vv70k ex p | |
| 8 | 65 | 7 | 23 | 05 | 18 | 13.8 | 6.7 | 62 | 6.1 | 1017.6 | 7 | 002 | 25 | 8 | 2 | 5 | 9 | 5 | 6 | 3 | 82825 | 81835 | 83650 | | | | 8 | 3Ac60 /Ci70 Cu con jpN | |
| 9 | 59 | 8 | 04 | 03 | 09 | 13.1 | 12.2 | 94 | 8.8 | 1015.3 | 3 | 001 | 50 | 8 | 6 | 8 | 5 | 3 | / | / | 83706 | 86710 | 88620 | | | | 9 | vv15k NW | |
| 10 | 84 | 7 | 31 | 11 | 19 | 16.8 | 7.6 | 54 | 6.4 | 1021.0 | 8 | 001 | 02 | 2 | 2 | 2 | 8 | 6 | 7 | 8 | 82835 | 86365 | 87270 | | | | 10 | 1Sc56 2Ac62 Cu med | |
| 11 | 82 | 8 | 32 | 05 | 10 | 15.6 | 10.1 | 69 | 7.6 | 1021.2 | 7 | 004 | 03 | 2 | 2 | 8 | 8 | 5 | / | / | 82825 | 87635 | 88650 | | | | 11 | Cu hum | |
| 12 | 80 | 7 | 28 | 02 | 05 | 18.7 | 12.6 | 68 | 9.0 | 1018.7 | 6 | 010 | 02 | 2 | 2 | 7 | 8 | 5 | / | 1 | 82825 | 87640 | | | | | 12 | /Ci75 Cu med | |
| 13 | 56 | 8 | 34 | 02 | 10 | 16.4 | 14.7 | 90 | 10.3 | 1017.4 | 8 | 008 | 51 | 6 | 5 | 8 | 5 | 3 | / | / | 85708 | 88615 | | | | | 13 | | |
| 14 | 80 | 7 | 01 | 07 | 13 | 13.9 | 9.5 | 75 | 7.3 | 1017.1 | 0 | 002 | 02 | 6 | 2 | 7 | 8 | 4 | / | / | 83818 | 87640 | | | | | 14 | Absent vv&cld est | |
| 15 | 63 | 6 | 22 | 08 | 16 | 12.6 | 9.8 | 83 | 7.5 | 1013.0 | 8 | 023 | 03 | 1 | 1 | 5 | 0 | 9 | 5 | 1 | 82360 | 84365 | 85075 | | | | 15 | COTRA | |
| 16 | 84 | 3 | 29 | 15 | 27 | 13.7 | 2.0 | 45 | 4.4 | 1002.9 | 3 | 004 | 15 | 8 | 1 | 2 | 9 | 6 | 6 | 3 | 81940 | 82845 | | | | | 16 | 1Ac59 1Ci70 jpS,E&NW | |
| 17 | 50 | 8 | 17 | 05 | 11 | 12.5 | 11.3 | 93 | 8.5 | 995.6 | 8 | 056 | 50 | 6 | 5 | 8 | 5 | 2 | / | / | 86705 | 87708 | 88615 | | | | 17 | | |
| 18 | 86 | 6 | 28 | 08 | 20 | 14.9 | 5.5 | 53 | 5.6 | 1006.8 | 3 | 015 | 02 | 2 | 2 | 6 | 8 | 6 | 0 | 0 | 82838 | 86656 | | | | | 18 | Cu med Absent vv&cld est | |
| 19 | 30 | 8 | 22 | 09 | 18 | 15.4 | 14.0 | 92 | 10.0 | 1007.0 | 6 | 013 | 51 | 6 | 5 | 8 | 5 | 2 | / | / | 82705 | 87707 | 88615 | | | | 19 | | |
| 20 | 86 | 3 | 25 | 05 | 11 | 18.3 | 8.3 | 52 | 6.8 | 1019.2 | 8 | 001 | 01 | 1 | 1 | 1 | 4 | 6 | 0 | 1 | 81640 | 83078 | | | | | 20 | COTRA | |
| 21 | 70 | 8 | 23 | 07 | 12 | 18.5 | 14.9 | 80 | 10.4 | 1024.4 | 5 | 001 | 02 | 2 | 2 | 8 | 5 | 4 | / | / | 88615 | | | | | | 21 | | |
| 22 | 84 | 6 | 25 | 04 | 08 | 21.2 | 14.7 | 66 | 10.2 | 1027.8 | 8 | 010 | 02 | 2 | 2 | 6 | 5 | 5 | 0 | 0 | 86625 | | | | | | 22 | | |
| 23 | 60 | 8 | 17 | 03 | 07 | 17.5 | 13.9 | 79 | 9.7 | 1023.2 | 7 | 021 | 05 | 2 | 2 | 8 | 5 | 4 | / | / | 88615 | | | | | | 23 | | |
| 24 | 60 | 5 | 28 | 04 | 07 | 19.6 | 17.6 | 88 | 12.4 | 1014.7 | 7 | 017 | 05 | 2 | 2 | 4 | 8 | 4 | 0 | 1 | 81715 | 84820 | | | | | 24 | 1Sc30 3Ci78 COTRA Cu hum | |
| 25 | 50 | 7 | 03 | 02 | 06 | 20.4 | 14.0 | 67 | 9.9 | 1010.2 | 6 | 009 | 05 | 2 | 2 | 2 | 1 | 5 | 8 | 1 | 82825 | 87075 | | | | | 25 | 1Ac60 2Ci70 COTRA Ac cas | |
| 26 | 82 | 7 | 08 | 05 | 12 | 17.9 | 10.3 | 61 | 7.7 | 1017.0 | 7 | 006 | 02 | 2 | 2 | 1 | 5 | 6 | 7 | 1 | 81645 | 83358 | 87360 | | | | 26 | /Ci75 | |
| 27 | 70 | 6 | 07 | 06 | 18 | 17.0 | 9.1 | 60 | 7.2 | 1014.2 | 7 | 015 | 03 | 2 | 2 | 5 | 0 | 9 | 7 | 1 | 82368 | 84370 | | | | | 27 | 4Ci78 Ac vir Fall streaks | |
| 28 | 61 | 7 | 07 | 08 | 16 | 17.1 | 11.6 | 70 | 8.5 | 1007.8 | 7 | 013 | 21 | 6 | 2 | 7 | 0 | 9 | 8 | 1 | 82359 | 86362 | | | | | 28 | /Ac65 /Ci75 COTRA | |
| 29 | 70 | 1 | 08 | 08 | 17 | 18.8 | 11.3 | 61 | 8.3 | 1006.1 | 5 | 001 | 01 | 1 | 1 | 1 | 5 | 5 | 3 | 1 | 81628 | | | | | | 29 | 1Ac65 1Ci75 | |
| 30 | 68 | 7 | 08 | 04 | 12 | 17.9 | 11.3 | 65 | 8.3 | 1006.1 | 7 | 002 | 02 | 6 | 2 | 1 | 5 | 7 | 8 | / | 81656 | 83358 | 87360 | | | | 30 | Ac cas | |

Mean vis = 29.2 km

Mean cloud = 5.9 74%

Mean wind speed = 5.8 kn

Mean gust = 13 kn

Mean TT = 17.9 °C

Mean TdTd = 10.7 °C

Mean RH = 64.9%

Mean r = 8.1 g/kg

Mean PPP = 1015.1 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 | | 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 |
|-----------------|-----|------|-------------|--------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Sunshine | | 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 |
| Hourly analysis | | 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 |
| 2013 | | 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 5 | 0.00 | 0.45 | 0.28 | 0.20 | 0.00 | 0.00 | 0.01 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | | 6 | 0.00 | 1.00 | 0.65 | 1.00 | 0.04 | 0.00 | 0.23 | 1.00 | 0.00 | 0.24 | 0.06 | 0.00 | 0.00 | 0.11 | 0.72 | 0.75 |
| | | 7 | 0.27 | 1.00 | 0.00 | 1.00 | 0.66 | 0.00 | 0.93 | 0.75 | 0.01 | 0.70 | 0.00 | 0.00 | 0.00 | 0.23 | 1.00 | 1.00 |
| | | 8 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.70 | 0.00 | 0.84 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| | | 9 | 0.13 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.55 | 0.96 | 0.00 | 0.92 | 0.14 | 0.00 | 0.00 | 0.00 | 0.17 | 0.61 |
| | | 10 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.28 | 0.47 | 0.00 | 0.53 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.48 |
| | | 11 | 1.00 | 1.00 | 0.00 | 0.99 | 1.00 | 0.00 | 0.53 | 0.03 | 0.00 | 0.08 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 | 0.18 |
| | | 12 | 1.00 | 1.00 | 0.59 | 1.00 | 1.00 | 0.00 | 0.50 | 0.53 | 0.00 | 0.00 | 0.00 | 0.24 | 0.00 | 0.00 | 0.00 | 0.60 |
| | | 13 | 0.73 | 1.00 | 0.91 | 1.00 | 1.00 | 0.00 | 0.02 | 0.56 | 0.00 | 0.00 | 0.00 | 0.55 | 0.00 | 0.00 | 0.00 | 0.56 |
| | | 14 | 0.55 | 1.00 | 0.00 | 1.00 | 0.92 | 0.27 | 0.25 | 0.51 | 0.00 | 0.09 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.77 |
| | | 15 | 0.98 | 1.00 | 0.57 | 1.00 | 0.74 | 0.88 | 0.18 | 0.12 | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 0.64 |
| | | 16 | 0.08 | 1.00 | 0.98 | 1.00 | 0.87 | 0.77 | 0.06 | 0.00 | 0.02 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 | 0.79 |
| | | 17 | 0.00 | 1.00 | 0.74 | 1.00 | 1.00 | 0.76 | 0.47 | 0.02 | 0.08 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.00 | 0.86 |
| | | 18 | 0.00 | 0.60 | 0.00 | 0.35 | 0.22 | 0.08 | 0.00 | 0.06 | 0.12 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 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 | | 5.72 | 13.05 | 4.71 | 12.54 | 10.44 | 2.76 | 5.02 | 5.86 | 0.22 | 3.54 | 0.24 | 2.16 | 0.00 | 0.34 | 2.90 | 8.22 |

| | 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 | 0.04 |
| | 6 | 0.02 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 0.00 | 0.00 | 0.21 |
| | 7 | 0.00 | 0.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.74 | 0.00 | 0.08 | 0.04 | 0.31 |
| | 8 | 0.00 | 0.93 | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.65 | 0.00 | 0.00 | 0.35 |
| | 9 | 0.00 | 0.11 | 0.14 | 0.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.41 | 0.09 | 0.23 | 0.00 | 0.28 |
| | 10 | 0.00 | 0.01 | 0.00 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.55 | 0.00 | 0.19 | 0.01 | 0.22 | 0.00 | 0.25 |
| | 11 | 0.00 | 0.03 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.83 | 0.02 | 0.84 | 0.00 | 0.87 | 0.00 | 0.28 |
| | 12 | 0.00 | 0.19 | 0.00 | 0.98 | 0.00 | 0.00 | 0.00 | 0.83 | 0.04 | 0.05 | 0.91 | 0.00 | 0.75 | 0.00 | 0.34 |
| | 13 | 0.00 | 0.46 | 0.00 | 1.00 | 0.00 | 0.40 | 0.02 | 1.00 | 0.10 | 0.47 | 0.42 | 0.00 | 0.90 | 0.00 | 0.37 |
| | 14 | 0.00 | 0.59 | 0.00 | 0.98 | 0.00 | 0.55 | 0.00 | 0.94 | 0.39 | 0.00 | 0.16 | 0.00 | 1.00 | 0.00 | 0.33 |
| | 15 | 0.00 | 0.22 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.79 | 0.52 | 0.59 | 0.00 | 0.04 | 1.00 | 0.00 | 0.38 |
| | 16 | 0.00 | 0.38 | 0.87 | 0.92 | 0.00 | 0.49 | 0.84 | 0.99 | 0.00 | 0.70 | 0.00 | 0.67 | 0.75 | 0.00 | 0.42 |
| | 17 | 0.02 | 0.67 | 0.78 | 0.00 | 0.00 | 0.82 | 0.84 | 0.14 | 0.00 | 0.36 | 0.12 | 0.05 | 0.00 | 0.00 | 0.35 |
| | 18 | 0.00 | 0.06 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 |
| | 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 | 0.04 | 4.72 | 2.20 | 7.33 | 0.00 | 3.25 | 1.70 | 4.70 | 2.44 | 2.19 | 5.00 | 1.51 | 5.78 | 0.04 | 118.62 |

| SEPTEMBER 2013 | 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 | 14.02 | 21.9 | 1450 | 6.0 | 445 | 66.7 | 91.8 | 553 | 35.8 | 1525 | 7.29 | 6.27 | 7.5 | 2314 | 5.1 | 437 | 1029.69 | 1031.7 | 753 | 1027.6 | 1840 | 0.0 |
| 2 | 17.74 | 25.2 | 1435 | 9.9 | 251 | 69.1 | 92.6 | 306 | 43.1 | 1436 | 11.40 | 8.27 | 9.7 | 2202 | 6.7 | 251 | 1027.22 | 1028.4 | 14 | 1025.7 | 1607 | 0.0 |
| 3 | 17.46 | 25.8 | 1555 | 10.7 | 527 | 77.6 | 96.7 | 637 | 44.1 | 1345 | 12.98 | 9.17 | 10.6 | 1258 | 7.5 | 527 | 1026.79 | 1028.5 | 930 | 1024.7 | 2353 | 0.0 |
| 4 | 18.23 | 28.1 | 1430 | 9.3 | 526 | 67.7 | 97.2 | 643 | 24.1 | 1605 | 10.52 | 7.92 | 12.2 | 853 | 5.2 | 1710 | 1020.22 | 1025.1 | 27 | 1015.6 | 2358 | 0.0 |
| 5 | 18.64 | 28.5 | 1413 | 9.4 | 523 | 63.6 | 95.3 | 602 | 28.3 | 1710 | 10.29 | 7.82 | 10.6 | 936 | 5.6 | 1805 | 1010.97 | 1015.6 | 0 | 1008.0 | 1621 | 0.0 |
| 6 | 14.13 | 17.7 | 1554 | 11.7 | 2244 | 77.6 | 91.2 | 1108 | 53.5 | 1758 | 10.14 | 7.74 | 9.1 | 1227 | 6.1 | 1802 | 1008.61 | 1010.7 | 2200 | 1006.5 | 558 | 1.0 |
| 7 | 12.72 | 19.5 | 1420 | 8.4 | 2210 | 75.3 | 94.0 | 402 | 38.2 | 1420 | 7.98 | 6.65 | 7.7 | 851 | 5.2 | 1109 | 1013.91 | 1017.7 | 2225 | 1010.1 | 0 | 0.4 |
| 8 | 11.41 | 16.9 | 1019 | 4.9 | 549 | 78.2 | 97.2 | 651 | 48.9 | 1019 | 7.40 | 6.38 | 8.1 | 822 | 5.1 | 549 | 1017.79 | 1018.4 | 2220 | 1016.9 | 1635 | 0.6 |
| 9 | 11.25 | 14.4 | 1103 | 7.7 | 44 | 93.5 | 96.5 | 2045 | 87.4 | 1043 | 10.24 | 7.76 | 9.5 | 1240 | 5.9 | 1 | 1016.51 | 1018.8 | 2341 | 1014.8 | 1241 | 4.8 |
| 10 | 13.02 | 17.3 | 1447 | 7.8 | 328 | 73.4 | 95.5 | 343 | 52.8 | 1445 | 8.07 | 6.63 | 7.5 | 932 | 6.1 | 1852 | 1020.89 | 1022.3 | 2154 | 1018.6 | 0 | 0.1 |
| 11 | 13.60 | 16.9 | 1149 | 11.4 | 322 | 78.3 | 95.5 | 2346 | 57.3 | 1150 | 9.73 | 7.44 | 8.9 | 1907 | 6.3 | 601 | 1021.39 | 1022.7 | 622 | 1019.7 | 2357 | 4.1 |
| 12 | 15.22 | 20.3 | 1532 | 12.2 | 13 | 87.1 | 96.8 | 637 | 60.0 | 1535 | 12.95 | 9.21 | 10.9 | 2359 | 8.4 | 13 | 1019.06 | 1020.3 | 933 | 1017.7 | 2354 | 1.0 |
| 13 | 16.30 | 19.2 | 1036 | 10.2 | 2358 | 93.1 | 96.7 | 2109 | 82.5 | 1239 | 15.19 | 10.69 | 12.4 | 1027 | 7.3 | 2358 | 1016.61 | 1018.4 | 933 | 1012.1 | 2154 | 18.5 |
| 14 | 10.46 | 14.0 | 1549 | 5.9 | 2348 | 87.8 | 95.8 | 2352 | 68.4 | 1626 | 8.45 | 6.85 | 7.8 | 1012 | 5.4 | 2349 | 1016.51 | 1019.2 | 2033 | 1013.6 | 0 | 1.0 |
| 15 | 10.97 | 15.7 | 1904 | 4.1 | 411 | 86.7 | 97.2 | 611 | 66.8 | 1005 | 8.73 | 7.17 | 10.4 | 1904 | 4.9 | 411 | 1009.29 | 1018.9 | 13 | 1000.7 | 1812 | 0.8 |
| 16 | 10.71 | 15.6 | 1243 | 6.8 | 555 | 62.9 | 81.8 | 2359 | 38.9 | 1243 | 3.64 | 4.97 | 5.7 | 820 | 4.1 | 1520 | 1003.36 | 1004.6 | 2341 | 1002.0 | 1358 | 0.0 |
| 17 | 11.44 | 15.7 | 1855 | 7.1 | 5 | 84.9 | 94.5 | 1624 | 68.4 | 1010 | 8.96 | 7.38 | 10.4 | 1851 | 5.2 | 1 | 999.76 | 1004.7 | 36 | 993.8 | 1736 | 5.8 |
| 18 | 12.12 | 16.8 | 1418 | 7.9 | 2359 | 75.6 | 94.2 | 513 | 45.1 | 1419 | 7.66 | 6.63 | 8.6 | 1 | 5.1 | 1540 | 1004.92 | 1012.8 | 2356 | 996.7 | 0 | 0.2 |
| 19 | 12.11 | 17.1 | 1643 | 6.2 | 339 | 82.9 | 93.2 | 1556 | 65.5 | 1125 | 9.23 | 7.40 | 11.0 | 1643 | 5.2 | 338 | 1010.42 | 1013.2 | 102 | 1006.8 | 1529 | 0.7 |
| 20 | 13.02 | 18.6 | 1330 | 8.2 | 2320 | 74.0 | 93.5 | 2323 | 48.6 | 1502 | 8.17 | 6.69 | 7.5 | 1045 | 6.1 | 1303 | 1018.68 | 1023.5 | 2338 | 1012.6 | 1 | 0.0 |
| 21 | 14.54 | 19.1 | 1422 | 8.3 | 53 | 86.9 | 95.2 | 2344 | 75.4 | 1254 | 12.34 | 8.94 | 11.2 | 2148 | 6.2 | 25 | 1024.41 | 1026.7 | 2356 | 1022.5 | 120 | 0.0 |
| 22 | 17.14 | 21.8 | 1510 | 13.8 | 2139 | 86.9 | 95.0 | 2358 | 63.6 | 1508 | 14.85 | 10.32 | 11.1 | 1343 | 9.0 | 2100 | 1027.77 | 1029.0 | 1105 | 1026.5 | 15 | 0.0 |
| 23 | 15.07 | 18.1 | 1616 | 9.8 | 2317 | 90.3 | 96.8 | 2339 | 78.0 | 1528 | 13.45 | 9.50 | 10.6 | 802 | 7.2 | 2318 | 1024.28 | 1027.4 | 0 | 1020.0 | 2341 | 0.0 |
| 24 | 13.11 | 19.8 | 1459 | 9.0 | 249 | 95.0 | 98.6 | 922 | 81.0 | 1622 | 12.30 | 8.96 | 12.7 | 1417 | 6.9 | 249 | 1016.12 | 1020.1 | 0 | 1013.2 | 2334 | 0.2 |
| 25 | 16.09 | 20.9 | 1455 | 12.6 | 129 | 88.4 | 97.6 | 746 | 66.6 | 1458 | 14.05 | 9.97 | 11.6 | 1138 | 8.7 | 129 | 1011.65 | 1013.5 | 3 | 1010.0 | 1539 | 0.5 |
| 26 | 14.64 | 19.9 | 1519 | 10.1 | 2348 | 80.9 | 95.1 | 135 | 50.2 | 1520 | 11.16 | 8.25 | 10.6 | 3 | 6.7 | 1603 | 1016.51 | 1018.1 | 2331 | 1013.2 | 3 | 0.0 |
| 27 | 12.80 | 18.8 | 1349 | 8.4 | 622 | 81.2 | 96.0 | 638 | 53.8 | 1406 | 9.43 | 7.31 | 8.8 | 845 | 6.5 | 622 | 1015.60 | 1018.1 | 18 | 1012.6 | 2357 | 0.0 |
| 28 | 14.23 | 18.5 | 1138 | 9.8 | 54 | 80.4 | 95.9 | 509 | 54.4 | 1650 | 10.72 | 8.06 | 9.9 | 1040 | 6.2 | 1652 | 1008.97 | 1012.7 | 0 | 1006.9 | 1620 | 0.4 |
| 29 | 15.12 | 20.4 | 1245 | 12.5 | 343 | 76.1 | 86.8 | 45 | 55.0 | 1246 | 10.83 | 8.09 | 9.2 | 1222 | 7.6 | 1909 | 1006.56 | 1007.6 | 44 | 1005.5 | 1331 | 0.0 |
| 30 | 14.43 | 18.3 | 1403 | 10.5 | 501 | 79.6 | 94.8 | 610 | 60.0 | 1516 | 10.84 | 8.12 | 9.6 | 832 | 7.0 | 1819 | 1006.52 | 1008.5 | 2247 | 1005.1 | 524 | 0.0 |

| Total | Mean | Max | Min | 9.02 | 80.1 | 94.63 | 56.53 | 10.30 | 7.89 | 9.71 | 6.29 | 1015.70 | 1018.57 | 1012.66 | 40.1 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------|---------|---------|---------|---------|------|
| | 14.06 | 19.34 | 13.83 | 80.1 | 94.63 | 56.53 | 10.30 | 7.89 | 9.71 | 6.29 | 1015.70 | 1018.57 | 1012.66 | 40.1 | |
| | 18.64 | 28.46 | 95.0 | 98.60 | 87.40 | 15.19 | 10.69 | 12.69 | 9.04 | 1029.69 | 1031.66 | 1027.63 | | | |
| | 10.46 | 13.95 | 4.12 | 62.9 | 81.80 | 24.12 | 3.64 | 4.97 | 5.73 | 4.09 | 999.76 | 1004.58 | 993.76 | | |

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
 Rtot = 00-24 GMT rainfall total from AWS tipping bucket raingauge, mm
 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

Appendix 1.

Explanation and definition of some of the terms used in the Wokingham Weather Reports.

Average: Generally refers to the 30 year climatological average, currently 1981 to 2010. This will be next updated in 2010. 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 instrument used to detect sunshine amount in July 1999, and the data produced by the new instrument is not strictly comparable with that obtained prior to July 1999, 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 of instrument, due to a combination of faster reaction and higher sensitivity than the old type. Thus the average used in this case is for a theoretical equivalent average for the 1981 to 2010 climatological period for this new instrument, based on comparisons with Met Office published tables of departure from the 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 the 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 "half (max+min)". A true daily 24 hour (00 to 24 GMT) mean temperature is available from the AWS, and is currently published on page 7 of the Wokingham Monthly Weather Report on the Wokingham Weather Web Site, page1. <http://www.woksat.info/wwp1.html>

Anomaly : When a value is given for anomaly, this will have the following meanings:

- a): The departure of a mean from the current climatological average.
- b): The departure of a value from the a long-term average for a particular day.

When the word anomaly is used in respect to temperature, any values given are in degrees C. In respect to rainfall, percent. In respect of sunshine, percent. In respect to wind, mph. In respect to 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 mild/cold are used in the winter half year, and warm/cool in the summer half.

The term normal is defined as being 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 for sunshine follow the same rules as for temperature.

Rainfall: The terms for rainfall are very dry, dry, normal, wet and very wet.

The term normal follows the same rule as for temperature and sunshine.

The term wet is used for values lying between 10% and 30% below the highest value in the ranked series.

the term very wet is used for values lying within 10% of the highest value in the ranked series.

The term dry is used for values lying between 10% and 30% of the lowest value in the ranked series.

The term very dry is used for values lying 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 the records of various station in the Wokingham area in the years prior to the establishment of a weather station at Emmbrook in 1976.

In the case of monthly max, min and mean temperature and of rainfall total the 'long-term' goes from the present back to 1882. For extremes of temperature, highest max and lowest min are back to 1904, and for 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 values of the entire series. The central value in the ranked series is known as the median. This value may be different from the 'average' if the population of values is skewed. Also, as the median considers all values in the series, and the average refers to a 30 year climatological period, during periods of climatic change, the median will also be expected to differ from the average.

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

The year number given when discussing 'winter' is usually the year in which the majority of the period lies, i.e. January/February

Annual or Year : The calendar year, 1st January to 31st December.

The climatological day : runs from 09 to 09 GMT. The max temperature and rainfall read at 0900 are attributed to the previous day, as is the duration of measurable rain calculated up to 0900 GMT. The min temperature and grass min read at 0900 are attributed to the day of reading. Pressure is read at 0900 GMT, and the monthly mean pressure is the mean of the 0900 readings. Sunshine data, wind data, rainfall rates and 24 hour data from the AWS use the normal 00 to 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 % cover of snow at the 0900 GMT observation.

Hail : A day of hail is recorded if hailstones of 5 mm diameter or more are observed or recorded on the hail pad on 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. Note, various types of other ice meteors such as ice pellets, snow grains, and some types of snow pellets are included in this category.

Fog: A day of 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.

Rainfall : Rainfall is given in mm and tenths. "tr" (trace) is entered when: a) precipitation has occurred but there is no water in the gauge. b) There is water in the gauge but it is less than 0.05 mm.

Dry Spell : A dry spell, for the purposes of the Wokingham climatological data and reports, is defined as a period of 5 or more consecutive dry days. A dry day is defined as one where the 24 hour precipitation measured at 09 GMT is not greater than 0.1 mm.

Wind: The following abbreviations may be used to denote wind directions :

Degrees are from true north

N = North = 360° and 22.5° either side.

NE = NorthEast = 045° and 22.5° either side.

E = East = 090° and 22.5° either side.

SE = SouthEast = 135° and 22.5° either side.

S = South = 180° and 22.5° either side.

SW = SouthWest = 225° and 22.5° either side.

W = West = 270° and 22.5° either side.

NW = NorthWest = 315° and 22.5° either side.

Wind – terms for speed used in monthly reports: When the following terms are used in the monthly reports, they will be based on the following unofficial criteria, (the day runs from 00 to 24 GMT) :

| Term | Daily mean speed, knots | | Highest hourly mean speed, knots | | 24 hour maximum gust, knots |
|-------------|-------------------------|-----|----------------------------------|-----|-----------------------------|
| Very light | 3 or less | and | 4 or less | and | 8 or less |
| Light | 3 to 6 | or | 4 to 8 | or | 8 to 16 |
| Moderate | 6 to 9 | or | 8 to 12 | or | 16 to 24 |
| Fresh | 9 to 12 | or | 12 to 16 | or | 24 to 32 |
| Strong | 12 to 15 | or | 16 to 20 | or | 32 to 40 |
| Very strong | 15 to 18 | or | 20 to 24 | or | 40 to 48 |
| Near gale | 18 to 21 | or | 24 to 28 | or | 48 to 56 |
| Gale | 21 to 24 | or | 28 to 32 | or | 56 to 64 |
| Severe gale | 24 to 27 | or | 32 to 36 | or | 64 to 72 |

B.J.Burton. 3 August 2009
 Updated 8 Sept 2009,
 4 Nov 2011

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.