

Table 2.19(h) Annual and seasonal average percentage frequencies of hourly wind speed by wind direction: Manchester (1982–2011)

| Direction / deg. | Percentage frequency for stated range of wind speed / m·s ⁻¹ | | | | | | | | | | | | | | | | |
|-----------------------|---|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| | 0–2 | 2–4 | 4–6 | 6–8 | 8–10 | 10–12 | 12–14 | 14–16 | 16–18 | 18–20 | 20–22 | 22–24 | 24–26 | 26–28 | 28–30 | 30–32 | All speeds |
| Annual average | | | | | | | | | | | | | | | | | |
| Calm/variable | 0.79 | 0.18 | 0.08 | 0.04 | 0.02 | | | | | | | | | | | | 1.11 |
| 020 to 040 | 0.91 | 1.42 | 1.17 | 0.63 | 0.23 | 0.07 | 0.01 | | | | | | | | | | 4.44 |
| 050 to 070 | 1.28 | 2.00 | 1.57 | 0.79 | 0.29 | 0.09 | 0.02 | | | | | | | | | | 6.04 |
| 080 to 100 | 1.43 | 2.02 | 1.62 | 0.85 | 0.33 | 0.08 | 0.02 | | | | | | | | | | 6.35 |
| 110 to 130 | 1.19 | 1.59 | 1.16 | 0.64 | 0.23 | 0.08 | 0.01 | | | | | | | | | | 4.90 |
| 140 to 160 | 1.86 | 2.77 | 2.23 | 1.14 | 0.44 | 0.13 | 0.02 | | | | | | | | | | 8.59 |
| 170 to 190 | 3.63 | 5.80 | 4.91 | 2.58 | 0.89 | 0.28 | 0.05 | 0.01 | 0.00 | 0.00 | | | | | | | 18.15 |
| 200 to 220 | 2.85 | 4.71 | 3.86 | 1.97 | 0.68 | 0.20 | 0.03 | 0.01 | 0.00 | 0.00 | | | | | | | 14.31 |
| 230 to 250 | 1.84 | 2.99 | 2.38 | 1.21 | 0.46 | 0.14 | 0.03 | 0.01 | 0.00 | 0.00 | | | | | | | 9.06 |
| 260 to 280 | 2.12 | 3.64 | 2.96 | 1.62 | 0.54 | 0.16 | 0.03 | 0.00 | 0.00 | 0.00 | | | | | | | 11.08 |
| 290 to 310 | 1.67 | 2.81 | 2.34 | 1.24 | 0.48 | 0.14 | 0.02 | 0.01 | | | | | | | | | 8.71 |
| 320 to 340 | 0.94 | 1.40 | 1.13 | 0.63 | 0.24 | 0.08 | 0.02 | | | | | | | | | | 4.44 |
| 350 to 010 | 0.61 | 0.88 | 0.72 | 0.41 | 0.15 | 0.05 | 0.01 | | | | | | | | | | 2.83 |
| All directions | 21.12 | 32.21 | 26.13 | 13.75 | 4.98 | 1.50 | 0.27 | 0.04 | 0.01 | 0.01 | | | | | | | 100.02 |
| Spring average | | | | | | | | | | | | | | | | | |
| Calm/variable | 1.10 | 0.02 | | | | | | | | | | | | | | | 1.12 |
| 020 to 040 | 0.94 | 2.24 | 1.96 | 0.89 | 0.24 | 0.07 | 0.00 | | | | | | | | | | 6.33 |
| 050 to 070 | 1.31 | 2.76 | 2.46 | 1.47 | 0.46 | 0.13 | 0.02 | | | | | | | | | | 8.61 |
| 080 to 100 | 1.56 | 1.99 | 1.87 | 1.18 | 0.39 | 0.09 | 0.01 | | | | | | | | | | 7.07 |
| 110 to 130 | 1.42 | 1.68 | 1.36 | 0.65 | 0.18 | 0.02 | 0.00 | | | | | | | | | | 5.31 |
| 140 to 160 | 1.69 | 2.42 | 2.11 | 1.17 | 0.29 | 0.06 | 0.01 | | | | | | | | | | 7.75 |
| 170 to 190 | 2.38 | 4.58 | 4.47 | 2.54 | 0.87 | 0.22 | 0.05 | 0.01 | 0.00 | 0.00 | | | | | | | 15.11 |
| 200 to 220 | 2.01 | 3.00 | 3.26 | 2.53 | 1.13 | 0.32 | 0.08 | 0.01 | 0.00 | | | | | | | | 12.32 |
| 230 to 250 | 1.69 | 2.26 | 1.98 | 1.43 | 0.47 | 0.13 | 0.02 | 0.01 | 0.01 | 0.00 | | | | | | | 7.98 |
| 260 to 280 | 1.75 | 3.17 | 2.91 | 1.78 | 0.80 | 0.28 | 0.05 | 0.01 | 0.00 | | | | | | | | 10.76 |
| 290 to 310 | 1.11 | 3.38 | 3.30 | 1.37 | 0.34 | 0.06 | 0.02 | | | | | | | | | | 9.58 |
| 320 to 340 | 0.97 | 1.99 | 1.08 | 0.46 | 0.09 | 0.02 | | | | | | | | | | | 4.61 |
| 350 to 010 | 0.74 | 1.28 | 0.84 | 0.45 | 0.12 | 0.02 | | | | | | | | | | | 3.45 |
| All directions | 18.66 | 30.75 | 27.60 | 15.91 | 5.38 | 1.42 | 0.25 | 0.03 | 0.01 | 0.00 | | | | | | | 100.00 |
| Summer average | | | | | | | | | | | | | | | | | |
| Calm/variable | 0.76 | 0.02 | | | | | | | | | | | | | | | 0.77 |
| 020 to 040 | 0.67 | 1.67 | 1.00 | 0.35 | 0.06 | 0.00 | | | | | | | | | | | 3.75 |
| 050 to 070 | 1.26 | 2.19 | 1.33 | 0.53 | 0.15 | 0.04 | | | | | | | | | | | 5.50 |
| 080 to 100 | 1.60 | 1.71 | 1.43 | 0.66 | 0.11 | 0.03 | 0.00 | | | | | | | | | | 5.53 |
| 110 to 130 | 1.66 | 1.64 | 0.84 | 0.22 | 0.02 | 0.01 | 0.00 | | | | | | | | | | 4.40 |
| 140 to 160 | 2.10 | 2.29 | 1.37 | 0.55 | 0.07 | 0.00 | | | | | | | | | | | 6.38 |
| 170 to 190 | 3.41 | 5.46 | 4.12 | 1.67 | 0.35 | 0.05 | | | | | | | | | | | 15.06 |
| 200 to 220 | 2.75 | 4.28 | 4.01 | 2.08 | 0.49 | 0.11 | 0.01 | 0.00 | | | | | | | | | 13.74 |
| 230 to 250 | 2.61 | 3.84 | 2.48 | 1.04 | 0.18 | 0.03 | | 0.00 | | | | | | | | | 10.18 |
| 260 to 280 | 2.66 | 5.98 | 4.62 | 1.40 | 0.18 | 0.00 | | | | | | | | | | | 14.85 |
| 290 to 310 | 1.49 | 5.24 | 4.57 | 1.18 | 0.09 | | | | | | | | | | | | 12.56 |
| 320 to 340 | 1.18 | 2.64 | 1.15 | 0.13 | 0.02 | 0.00 | | | | | | | | | | | 5.11 |
| 350 to 010 | 0.63 | 1.04 | 0.36 | 0.09 | 0.03 | 0.01 | | | | | | | | | | | 2.17 |
| All directions | 22.79 | 37.99 | 27.27 | 9.90 | 1.75 | 0.29 | 0.02 | 0.00 | | | | | | | | | 100.00 |
| Autumn average | | | | | | | | | | | | | | | | | |
| Calm/variable | 1.10 | 0.01 | | | | | | | | | | | | | | | 1.11 |
| 020 to 040 | 0.85 | 1.77 | 0.96 | 0.33 | 0.07 | 0.01 | 0.00 | | | | | | | | | | 3.99 |
| 050 to 070 | 1.45 | 1.80 | 0.95 | 0.44 | 0.16 | 0.03 | 0.00 | | | | | | | | | | 4.83 |
| 080 to 100 | 1.95 | 2.04 | 1.39 | 0.68 | 0.18 | 0.02 | 0.00 | | | | | | | | | | 6.25 |
| 110 to 130 | 1.62 | 1.85 | 1.13 | 0.52 | 0.13 | 0.05 | 0.00 | | | | | | | | | | 5.30 |
| 140 to 160 | 2.30 | 3.40 | 2.81 | 1.47 | 0.56 | 0.17 | 0.01 | | | | | | | | | | 10.72 |
| 170 to 190 | 3.41 | 6.55 | 6.02 | 3.54 | 1.24 | 0.39 | 0.06 | 0.01 | | | | | | | | | 21.22 |
| 200 to 220 | 2.60 | 4.09 | 4.02 | 2.88 | 1.11 | 0.34 | 0.04 | | | | | | | | | | 15.09 |
| 230 to 250 | 1.96 | 2.86 | 2.30 | 1.21 | 0.43 | 0.11 | 0.02 | | | | | | | | | | 8.89 |
| 260 to 280 | 1.72 | 2.88 | 2.54 | 1.29 | 0.45 | 0.10 | 0.01 | | | | | | | | | | 8.99 |
| 290 to 310 | 1.20 | 2.62 | 1.83 | 0.62 | 0.16 | 0.01 | 0.00 | | | | | | | | | | 6.45 |
| 320 to 340 | 1.16 | 1.91 | 0.88 | 0.24 | 0.03 | 0.00 | | | | | | | | | | | 4.21 |
| 350 to 010 | 0.80 | 1.21 | 0.74 | 0.18 | 0.02 | | | | | | | | | | | | 2.95 |
| All directions | 22.12 | 32.97 | 25.57 | 13.41 | 4.52 | 1.25 | 0.16 | 0.01 | | | | | | | | | 100.00 |

Table continues

