

**Table 2.20(c)** Annual and seasonal average percentage frequencies of hourly wind speed by temperature: Cardiff (1982–2011)

Temperature / °C	Percentage frequency for stated range of wind speed / m·s <sup>-1</sup>																
	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
<b>Annual average</b>																	
–12 to –10.1																	
–10 to –8.1	0.00	0.00	0.00	0.00													0.01
–8 to –6.1	0.01	0.01	0.01	0.00	0.00												0.04
–6 to –4.1	0.03	0.06	0.04	0.02	0.02	0.01	0.00										0.17
–4 to –2.1	0.11	0.17	0.08	0.05	0.05	0.03	0.02	0.00									0.51
–2 to –0.1	0.34	0.52	0.36	0.19	0.13	0.05	0.02	0.00									1.61
0 to 1.9	0.74	1.22	0.78	0.48	0.23	0.10	0.03	0.00									3.58
2 to 3.9	0.99	1.97	1.23	0.78	0.42	0.16	0.05	0.01	0.00								5.60
4 to 5.9	1.16	2.59	2.05	1.29	0.61	0.29	0.10	0.03	0.01	0.01	0.00						8.13
6 to 7.9	1.53	3.26	3.06	2.17	1.19	0.60	0.21	0.07	0.02	0.01	0.00	0.00					12.12
8 to 9.9	1.42	3.53	3.70	2.99	1.75	0.98	0.44	0.13	0.03	0.01	0.00	0.00	0.00				14.97
10 to 11.9	1.39	3.38	3.24	2.50	1.47	0.74	0.35	0.11	0.04	0.02	0.00	0.00					13.24
12 to 13.9	1.41	3.46	3.31	2.52	1.22	0.46	0.13	0.04	0.01	0.01	0.00	0.00					12.57
14 to 15.9	1.20	3.23	3.48	2.64	1.20	0.41	0.10	0.02	0.00	0.00							12.29
16 to 17.9	0.73	2.30	2.55	1.89	0.75	0.19	0.05	0.00									8.47
18 to 19.9	0.31	1.18	1.22	0.79	0.25	0.04	0.01										3.81
20 to 21.9	0.14	0.56	0.56	0.28	0.07	0.01											1.62
22 to 23.9	0.06	0.30	0.25	0.13	0.03	0.00											0.77
24 to 25.9	0.03	0.13	0.10	0.05	0.01	0.00											0.32
26 to 27.9	0.01	0.05	0.04	0.02	0.01												0.13
28 to 29.9	0.00	0.02	0.02	0.01	0.00												0.04
30 to 31.9		0.00	0.01		0.00												0.01
32 to 33.9		0.00															0.00
34 to 35.9																	
36 to 37.9																	
All temps.	11.60	27.95	26.11	18.77	9.41	4.07	1.49	0.41	0.12	0.06	0.01	0.01	0.00				100.00
<b>Spring average</b>																	
–12 to –10.1																	
–10 to –8.1	0.00																0.00
–8 to –6.1	0.01	0.01															0.01
–6 to –4.1	0.01	0.01															0.01
–4 to –2.1	0.04	0.06	0.01	0.01													0.11
–2 to –0.1	0.23	0.24	0.10	0.05	0.04	0.01											0.66
0 to 1.9	0.72	0.94	0.43	0.30	0.17	0.06	0.00										2.62
2 to 3.9	1.20	2.11	1.12	0.80	0.45	0.20	0.06	0.00									5.93
4 to 5.9	1.63	3.20	2.58	1.69	0.78	0.34	0.09	0.01	0.00		0.00	0.00	0.00				10.32
6 to 7.9	2.32	5.01	4.51	3.15	1.62	0.78	0.30	0.08	0.01	0.00	0.00						17.78
8 to 9.9	1.98	5.79	6.47	4.65	2.54	1.23	0.53	0.13	0.01	0.01	0.00	0.00	0.00				23.34
10 to 11.9	1.54	4.73	5.47	3.79	1.95	0.79	0.24	0.05	0.02	0.00							18.59
12 to 13.9	0.92	2.88	3.18	2.43	1.19	0.28	0.04	0.02	0.00								10.94
14 to 15.9	0.41	1.60	1.62	1.01	0.41	0.10	0.02										5.17
16 to 17.9	0.20	0.83	0.75	0.48	0.14	0.02	0.00										2.43
18 to 19.9	0.09	0.32	0.36	0.22	0.10	0.01	0.00										1.10
20 to 21.9	0.05	0.19	0.21	0.09	0.06	0.01											0.62
22 to 23.9	0.02	0.10	0.11	0.08	0.01												0.31
24 to 25.9	0.00	0.03	0.02	0.02	0.00												0.08
26 to 27.9	0.00	0.00															0.00
28 to 29.9																	
30 to 31.9																	
32 to 33.9																	
34 to 35.9																	
36 to 37.9																	
All temps.	11.36	28.03	26.93	18.76	9.46	3.83	1.29	0.29	0.04	0.01	0.01	0.00	0.00				100.01

Table continues

**Table 2.20(c)** Annual and seasonal average percentage frequencies of hourly wind speed by temperature: Cardiff (1982–2011) — *continued*

Temperature / °C	Percentage frequency for stated range of wind speed / m·s <sup>-1</sup>															All speeds	
	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
<b>Summer average</b>																	
–12 to –10.1																	
–10 to –8.1																	
–8 to –6.1																	
–6 to –4.1																	
–4 to –2.1																	
–2 to –0.1																	
0 to 1.9																	
2 to 3.9	0.01	0.01															0.02
4 to 5.9	0.06	0.06	0.00														0.12
6 to 7.9	0.33	0.32	0.04	0.01	0.01												0.70
8 to 9.9	0.99	1.19	0.22	0.07	0.03	0.03	0.00										2.53
10 to 11.9	1.87	2.96	1.36	0.67	0.21	0.08	0.04	0.00									7.19
12 to 13.9	2.93	5.89	4.48	2.89	1.00	0.30	0.07	0.01	0.00								17.56
14 to 15.9	3.14	7.66	7.78	5.62	2.25	0.59	0.09	0.02	0.00								27.14
16 to 17.9	2.21	6.35	6.99	5.26	2.06	0.46	0.07	0.00									23.41
18 to 19.9	0.97	3.67	3.76	2.52	0.74	0.11	0.02										11.79
20 to 21.9	0.43	1.82	1.81	0.91	0.18	0.03	0.00										5.18
22 to 23.9	0.18	1.02	0.85	0.38	0.09	0.00											2.51
24 to 25.9	0.10	0.46	0.38	0.15	0.05	0.01											1.14
26 to 27.9	0.05	0.18	0.17	0.08	0.02	0.00											0.50
28 to 29.9	0.01	0.06	0.07	0.02	0.01												0.16
30 to 31.9		0.01	0.02	0.00	0.01												0.04
32 to 33.9	0.00	0.00															0.01
34 to 35.9																	
36 to 37.9																	
All temps.	13.26	31.66	27.92	18.58	6.63	1.62	0.30	0.04	0.01								100.01
<b>Autumn average</b>																	
–12 to –10.1																	
–10 to –8.1																	
–8 to –6.1	0.01	0.01															0.01
–6 to –4.1	0.01	0.02	0.01														0.03
–4 to –2.1	0.03	0.08	0.02	0.01													0.14
–2 to –0.1	0.16	0.19	0.05	0.01													0.41
0 to 1.9	0.43	0.75	0.26	0.06	0.03	0.00											1.53
2 to 3.9	0.81	1.43	0.43	0.16	0.10	0.02	0.00										2.94
4 to 5.9	1.11	2.21	0.94	0.45	0.20	0.07	0.01	0.00									4.99
6 to 7.9	1.70	3.28	1.89	1.27	0.60	0.24	0.05	0.02	0.01	0.01	0.00						9.06
8 to 9.9	1.92	4.33	3.54	2.48	1.20	0.59	0.21	0.06	0.01	0.00	0.00	0.01					14.35
10 to 11.9	1.95	5.02	4.67	3.68	1.96	0.89	0.39	0.13	0.03	0.01	0.01	0.01					18.75
12 to 13.9	1.76	4.90	5.33	4.42	2.40	1.06	0.33	0.10	0.03	0.02	0.01	0.00					20.34
14 to 15.9	1.21	3.58	4.44	3.85	2.11	0.95	0.28	0.07	0.01	0.01							16.49
16 to 17.9	0.50	1.96	2.40	1.78	0.78	0.27	0.10	0.01									7.79
18 to 19.9	0.16	0.71	0.73	0.40	0.17	0.05	0.02										2.24
20 to 21.9	0.08	0.22	0.22	0.09	0.03	0.01											0.64
22 to 23.9	0.03	0.09	0.05	0.05	0.03	0.00											0.25
24 to 25.9	0.01	0.03	0.01	0.01													0.05
26 to 27.9																	
28 to 29.9																	
30 to 31.9																	
32 to 33.9																	
34 to 35.9																	
36 to 37.9																	
All temps.	11.86	28.81	24.96	18.71	9.58	4.14	1.39	0.40	0.09	0.04	0.02	0.02					100.00

*Table continues*

**Table 2.20(c)** Annual and seasonal average percentage frequencies of hourly wind speed by temperature: Cardiff (1982–2011) — *continued*

Temperature / °C	Percentage frequency for stated range of wind speed / m·s <sup>-1</sup>																
	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
<b>Winter average</b>																	
–12 to –10.1																	
–10 to –8.1	0.00	0.01	0.02	0.01													0.04
–8 to –6.1	0.03	0.04	0.05	0.02	0.01	0.00											0.15
–6 to –4.1	0.10	0.22	0.14	0.07	0.09	0.03	0.00										0.65
–4 to –2.1	0.36	0.56	0.31	0.20	0.21	0.11	0.06	0.01									1.82
–2 to –0.1	1.00	1.71	1.31	0.69	0.47	0.21	0.07	0.01									5.48
0 to 1.9	1.84	3.25	2.50	1.61	0.74	0.33	0.11	0.01									10.38
2 to 3.9	1.98	4.41	3.45	2.20	1.15	0.41	0.12	0.03	0.01								13.75
4 to 5.9	1.88	4.94	4.76	3.05	1.49	0.75	0.31	0.09	0.04	0.04	0.01						17.36
6 to 7.9	1.77	4.45	5.86	4.33	2.60	1.39	0.49	0.18	0.07	0.03	0.01	0.01	0.00	0.00	0.00		21.17
8 to 9.9	0.77	2.78	4.59	4.80	3.25	2.09	1.04	0.32	0.09	0.04	0.01	0.00	0.00				19.78
10 to 11.9	0.14	0.74	1.41	1.83	1.75	1.23	0.73	0.25	0.13	0.06	0.01						8.27
12 to 13.9	0.01	0.07	0.16	0.28	0.29	0.21	0.09	0.03	0.01	0.01							1.14
14 to 15.9	0.01	0.01	0.01	0.00	0.01												0.03
16 to 17.9					0.00												0.00
18 to 19.9																	
20 to 21.9																	
22 to 23.9																	
24 to 25.9																	
26 to 27.9																	
28 to 29.9																	
30 to 31.9																	
32 to 33.9																	
34 to 35.9																	
36 to 37.9																	
All temps.	9.86	23.17	24.58	19.06	12.06	6.76	3.01	0.92	0.34	0.18	0.03	0.01	0.00	0.00	0.00		100.00