

'AllIndia_73.900E_19.750N_7.4_5' wind atlas

Reference conditions

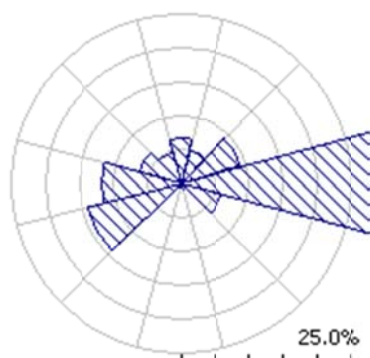
The wind atlas contains data for 4 reference roughness lengths (0.000 m, 0.030 m, 0.100 m, 0.400 m) and 5 reference heights (10 m, 25 m, 50 m, 100 m, 200 m) above ground level. The roses of Weibull parameters have 12 sectors each.

Regional wind climate summary

Height	Parameter	0.00 m	0.03 m	0.10 m	0.40 m
10.0 m	Weibull A [m/s]	8.3	5.6	4.9	3.9
	Weibull k	2.03	1.79	1.80	1.88
	Mean speed [m/s]	7.37	4.99	4.33	3.43
	Power density [W/m ²]	462	163	106	51
25.0 m	Weibull A [m/s]	8.7	6.3	5.7	4.8
	Weibull k	1.99	1.79	1.80	1.86
	Mean speed [m/s]	7.69	5.64	5.08	4.29
	Power density [W/m ²]	535	237	171	100
50.0 m	Weibull A [m/s]	9.3	7.2	6.6	5.8
	Weibull k	1.95	1.78	1.80	1.86
	Mean speed [m/s]	8.21	6.40	5.88	5.13
	Power density [W/m ²]	664	347	265	171
100.0 m	Weibull A [m/s]	9.7	8.2	7.6	6.7
	Weibull k	1.81	1.76	1.79	1.84
	Mean speed [m/s]	8.60	7.28	6.73	6.00
	Power density [W/m ²]	831	518	401	275
200.0 m	Weibull A [m/s]	10.1	9.5	8.8	7.9
	Weibull k	1.77	1.84	1.85	1.87
	Mean speed [m/s]	8.99	8.46	7.79	7.01
	Power density [W/m ²]	971	776	603	431

Detailed descriptions

Wind rose for roughness length 0.00 m



Sector frequencies for roughness length 0.00 m

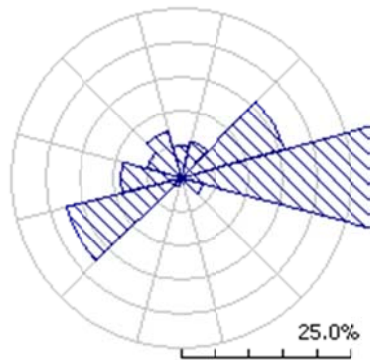
<i>i</i>	1	2	3	4	5	6	7	8	9	10	11	12
[°]	0	30	60	90	120	150	180	210	240	270	300	330
f [%]	6.7	5.0	9.1	34.2	6.2	0.9	0.4	0.6	14.1	11.7	6.4	4.7

Sector-wise Weibull distributions for roughness length 0.00 m

H	<i>i</i>	1	2	3	4	5	6	7	8	9	10	11	12
	°	0	30	60	90	120	150	180	210	240	270	300	330
10.0	A	3.7	3.5	4.9	8.3	6.3	3.4	4.2	7.4	14.1	11.2	6.3	4.6
	k	5.64	7.62	4.06	3.04	2.19	1.26	1.64	3.33	8.23	4.11	2.36	4.54
	U	3.38	3.24	4.41	7.43	5.56	3.15	3.76	6.66	13.27	10.17	5.59	4.16
	E	27	22	64	351	185	69	78	241	1518	787	176	52
25.0	A	3.7	3.5	5.0	8.7	6.6	3.5	4.4	7.8	14.8	11.7	6.5	4.6
	k	5.68	7.17	4.07	3.00	2.14	1.23	1.57	3.21	7.99	4.03	2.29	4.37
	U	3.44	3.31	4.56	7.76	5.80	3.29	3.92	6.96	13.97	10.65	5.77	4.22
	E	28	24	71	402	214	84	94	280	1779	909	198	55
50.0	A	3.9	3.7	5.4	9.3	7.1	5.3	4.7	8.4	15.9	12.6	7.0	4.8
	k	5.58	6.49	3.98	2.84	2.05	2.22	1.48	3.02	7.98	3.75	2.15	3.98
	U	3.59	3.47	4.87	8.26	6.31	4.70	4.24	7.48	14.99	11.34	6.16	4.35
	E	32	28	87	500	287	111	130	358	2197	1130	256	62
100.0	A	3.9	3.8	5.6	9.6	7.3	3.6	4.9	7.8	17.3	13.6	7.2	4.8
	k	4.31	5.39	3.81	2.55	1.84	1.00	1.34	2.14	7.49	3.42	1.81	3.37
	U	3.58	3.50	5.05	8.50	6.49	3.56	4.48	6.89	16.25	12.21	6.37	4.34
	E	34	30	99	586	349	167	180	359	2819	1467	337	66
200.0	A	4.1	3.9	5.9	9.8	7.3	3.7	4.7	9.2	18.7	14.1	7.4	5.0
	k	3.72	3.66	4.09	2.76	1.82	1.00	1.34	2.51	7.64	3.13	1.82	5.66
	U	3.66	3.48	5.34	8.74	6.51	3.71	4.28	8.19	17.55	12.64	6.61	4.63
	E	38	33	114	604	356	189	156	529	3544	1699	374	68

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Wind rose for roughness length 0.03 m



Sector frequencies for roughness length 0.03 m

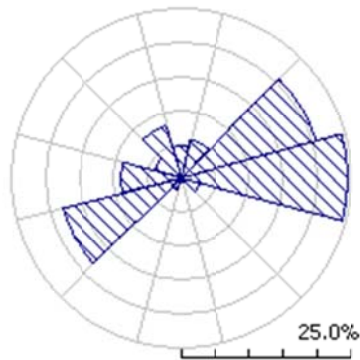
<i>i</i>	1	2	3	4	5	6	7	8	9	10	11	12
[°]	0	30	60	90	120	150	180	210	240	270	300	330
f [%]	4.7	5.6	15.7	29.1	3.4	0.8	0.4	1.4	17.5	8.7	5.2	7.3

Sector-wise Weibull distributions for roughness length 0.03 m

H	<i>i</i> °	1 0	2 30	3 60	4 90	5 120	6 150	7 180	8 210	9 240	10 270	11 300	12 330
10.0	A	2.4	2.4	4.2	5.8	3.4	3.2	3.3	7.4	9.7	5.9	4.0	3.1
	k	6.23	9.09	1.74	2.67	1.49	2.15	1.62	1.77	7.38	1.78	1.89	3.60
	U	2.22	2.26	3.72	5.18	3.03	2.87	2.99	6.56	9.06	5.26	3.51	2.75
	E	7	7	70	128	47	26	40	377	490	193	54	16
25.0	A	2.7	2.7	4.7	6.6	3.9	3.3	3.5	8.4	11.0	6.9	4.2	3.4
	k	6.20	9.00	1.73	2.66	1.53	1.59	1.50	1.78	7.41	1.93	1.83	3.63
	U	2.46	2.54	4.18	5.86	3.51	2.98	3.12	7.46	10.29	6.11	3.77	3.05
	E	10	11	100	186	70	41	51	551	717	277	69	22
50.0	A	3.0	3.1	5.3	7.5	4.5	3.9	4.0	9.6	12.5	7.8	4.6	3.8
	k	6.68	6.68	1.73	2.72	1.55	1.64	1.54	1.81	7.57	1.90	1.69	3.63
	U	2.76	2.86	4.70	6.71	4.04	3.48	3.63	8.52	11.69	6.90	4.07	3.39
	E	14	16	143	275	104	62	77	802	1049	405	96	31
100.0	A	3.3	3.5	5.9	8.5	5.1	4.5	5.2	10.4	14.3	9.2	5.4	4.1
	k	7.25	6.59	1.69	2.70	1.53	1.62	1.75	1.75	7.36	1.90	1.71	3.40
	U	3.07	3.25	5.28	7.58	4.59	4.00	4.67	9.29	13.36	8.17	4.80	3.71
	E	19	23	208	399	157	96	137	1084	1572	672	154	41
200.0	A	3.8	4.0	6.9	9.9	6.3	3.7	4.1	14.0	16.2	11.0	6.4	4.9
	k	5.18	6.34	1.73	2.99	1.78	1.06	1.17	2.19	7.46	2.07	3.26	4.50
	U	3.51	3.74	6.16	8.80	5.60	3.65	3.91	12.39	15.23	9.77	5.70	4.44
	E	30	35	321	586	234	156	154	2046	2323	1054	153	64

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Wind rose for roughness length 0.10 m



Sector frequencies for roughness length 0.10 m

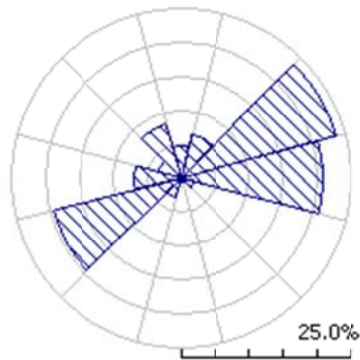
<i>i</i>	1	2	3	4	5	6	7	8	9	10	11	12
[°]	0	30	60	90	120	150	180	210	240	270	300	330
f [%]	4.7	5.7	20.4	24.4	2.7	0.6	0.5	2.0	18.0	8.7	4.3	8.0

Sector-wise Weibull distributions for roughness length 0.10 m

H	i	1	2	3	4	5	6	7	8	9	10	11	12
	°	0	30	60	90	120	150	180	210	240	270	300	330
10.0	A	2.0	2.3	4.1	5.1	2.7	2.8	3.5	7.6	8.2	4.7	2.9	2.6
	k	10.55	6.21	2.18	2.50	1.39	1.84	1.93	2.13	6.96	1.60	2.03	3.17
	U	1.94	2.17	3.63	4.48	2.47	2.49	3.08	6.76	7.69	4.23	2.60	2.32
	E	5	7	52	87	29	20	35	340	301	116	20	10
25.0	A	2.3	2.7	4.8	5.9	3.2	3.3	4.1	9.0	9.7	5.5	3.4	3.0
	k	11.24	4.99	2.23	2.56	1.37	1.84	1.93	2.15	7.06	1.58	2.03	3.17
	U	2.23	2.49	4.28	5.27	2.89	2.93	3.63	7.95	9.03	4.94	2.99	2.65
	E	7	11	83	139	46	32	58	550	488	185	31	16
50.0	A	2.6	3.1	5.6	6.9	3.7	3.9	4.8	10.4	11.2	6.6	3.9	3.4
	k	12.02	4.71	2.21	2.58	1.37	1.88	1.96	2.18	6.69	1.65	2.03	3.16
	U	2.50	2.86	4.92	6.14	3.37	3.46	4.26	9.23	10.41	5.86	3.46	3.03
	E	10	17	127	218	73	52	93	847	752	293	48	23
100.0	A	2.9	3.2	6.3	7.8	4.3	4.5	5.6	12.0	12.9	7.8	4.5	3.8
	k	8.19	5.79	2.21	2.64	1.40	1.92	2.03	2.24	7.48	1.76	2.15	3.23
	U	2.75	2.95	5.54	6.97	3.88	4.01	4.98	10.63	12.13	6.95	3.99	3.36
	E	14	18	181	315	108	79	142	1265	1172	452	70	31
200.0	A	3.4	3.8	7.3	9.1	5.2	4.2	4.4	14.8	14.8	8.7	5.7	4.4
	k	12.65	6.53	2.35	3.04	1.59	1.26	1.43	2.70	7.16	1.63	2.79	4.36
	U	3.28	3.50	6.46	8.09	4.69	3.94	3.95	13.19	13.87	7.74	5.09	4.02
	E	22	29	273	451	158	137	110	2102	1764	687	119	48

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Wind rose for roughness length 0.40 m



Sector frequencies for roughness length 0.40 m

<i>i</i>	1	2	3	4	5	6	7	8	9	10	11	12
[°]	0	30	60	90	120	150	180	210	240	270	300	330
f [%]	4.7	6.6	23.7	20.7	2.0	0.7	0.4	3.0	19.4	6.9	3.6	8.2

Sector-wise Weibull distributions for roughness length 0.40 m

H	<i>i</i> °	1 0	2 30	3 60	4 90	5 120	6 150	7 180	8 210	9 240	10 270	11 300	12 330
10.0	A	1.6	2.0	3.3	4.0	2.1	1.9	2.5	6.5	6.4	3.3	2.4	2.0
	k	10.75	3.18	2.23	2.56	1.44	1.28	1.80	3.02	6.87	2.37	2.12	3.07
	U	1.53	1.75	2.92	3.58	1.93	1.74	2.25	5.82	5.93	2.90	2.09	1.81
	E	2	4	26	43	13	11	15	169	139	24	10	5
25.0	A	1.9	2.4	4.2	5.0	2.7	2.4	3.2	8.2	8.0	4.1	2.9	2.5
	k	16.60	3.10	2.26	2.52	1.41	1.28	1.78	3.01	7.01	2.35	2.08	3.04
	U	1.88	2.16	3.68	4.46	2.41	2.20	2.83	7.31	7.46	3.61	2.58	2.20
	E	4	9	52	85	26	23	30	336	275	47	19	9
50.0	A	2.3	2.9	5.0	6.0	3.2	2.9	3.9	9.8	9.5	4.9	3.6	2.9
	k	10.28	2.96	2.24	2.55	1.39	1.28	1.78	3.05	7.05	2.35	2.43	2.94
	U	2.18	2.56	4.38	5.35	2.90	2.68	3.43	8.77	8.92	4.36	3.21	2.56
	E	7	15	89	146	46	42	54	574	470	84	33	15
100.0	A	2.6	3.3	5.7	7.0	3.8	3.4	4.6	11.6	11.3	5.9	4.2	3.3
	k	8.92	2.67	2.32	2.68	1.46	1.34	1.90	3.19	6.87	2.48	2.38	3.14
	U	2.42	2.89	5.05	6.19	3.41	3.15	4.08	10.39	10.60	5.21	3.70	2.93
	E	9	22	132	218	68	63	84	933	791	137	51	21
200.0	A	3.0	3.6	6.6	8.1	4.7	4.0	4.2	14.5	13.2	6.7	5.2	3.8
	k	10.60	2.25	2.47	3.23	1.67	1.34	1.46	3.87	6.54	2.49	2.91	3.63
	U	2.83	3.22	5.89	7.26	4.15	3.71	3.82	13.15	12.27	5.94	4.59	3.42
	E	14	35	199	317	103	101	97	1738	1236	203	85	31