

Project: **Northern Cheyenne #01**  
 Description: Data from file(s)  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 040115.N04  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 030327.N03  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 030514.N03  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 030702.N03  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 030807.N03  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 030923.N03  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 031201.N03  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 030219.N03  
 Y:\shared\Anemometer\_Loan\_Programs\WPA.NA.Loans\Northern Cheyenne - MT\Wind Data\N Cheyenne 040329.N04

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**Meteo data report, height: 20.0 m**

Name of meteo object: Northern Cheyenne #01

Data from: 02/19/2003 6:00 PM Data to: 11/11/2004 10:20 PM Observations: 90891 Observations per day: 144 Recovery rate: 100%

day	02/03	03/03	04/03	05/03	06/03	07/03	08/03	09/03	10/03	11/03	12/03	01/04	02/04	03/04	04/04	05/04	06/04	07/04	08/04	09/04	10/04	11/04
1		144	144	144	144	144	144	144	144	144	144	144	144	(0)	144	144	144	144	144	144	144	144
2		144	144	144	144	144	144	144	144	144	144	144	144	(0)	(127)	144	144	144	144	144	144	144
3		144	144	144	144	144	144	144	144	(64)	144	144	144	(70)	(104)	144	144	144	144	144	144	144
4		144	144	144	144	144	144	144	144	(0)	144	(123)	144	144	144	144	144	144	144	144	144	144
5		144	144	144	144	144	144	144	144	(77)	144	144	144	144	144	144	144	144	144	144	144	144
6		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
7		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
8		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
9		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
10		144	144	144	144	144	144	144	144	144	(65)	144	144	144	144	144	144	144	144	144	144	144
11		144	144	144	144	144	144	144	144	144	(24)	144	144	144	144	144	144	144	144	144	144	(135)
12		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
13		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
14		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
15		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
16		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
17		(135)	144	144	144	144	144	144	144	144	144	144	144	(122)	144	144	144	144	144	144	144	144
18		(0)	144	144	144	144	144	144	144	144	144	144	144	(132)	144	144	144	144	144	144	144	144
19	(10)	(64)	144	(129)	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
20	(141)	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
21	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
22	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
23	144	144	144	144	144	(132)	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
24	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
25	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
26	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
27	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
28	144	144	144	144	144	144	144	144	144	144	144	144	(77)	144	144	144	144	144	144	144	144	144
29		144	144	144	144	144	144	144	144	144	144	144	(0)	144	144	144	144	144	144	144	144	144
30		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
31		144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
%	(98)	(95)	100	(100)	100	(100)	100	100	100	(93)	(96)	(100)	(95)	(91)	(99)	100	100	100	100	100	100	(100)

Project:

**Northern Cheyenne #01**

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Data from file(s)

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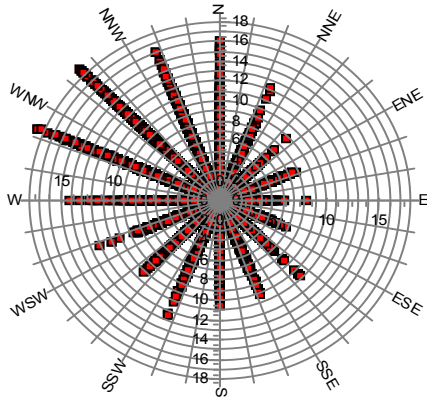
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**Meteo data report, height: 20.0 m**

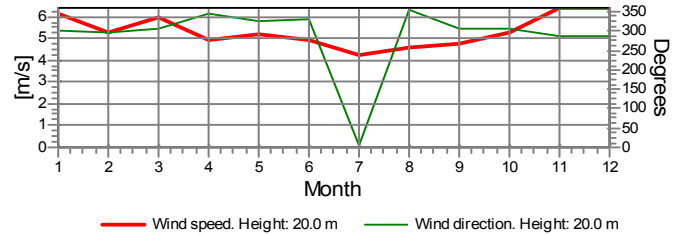
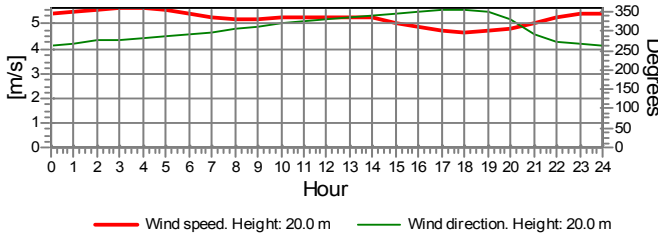
Name of meteo object: Northern Cheyenne #01



**Monthly mean values of wind speed in m/s**

Month	2003	2004	mean	mean of months
Jan		6.2	6.2	6.2
Feb	4.3	5.5	5.2	4.9
Mar	5.6	6.3	6.0	6.0
Apr	4.6	5.2	4.9	4.9
May	4.8	5.6	5.2	5.2
Jun	5.2	4.7	4.9	4.9
Jul	4.2	4.3	4.2	4.2
Aug	4.7	4.6	4.6	4.6
Sep	5.1	4.4	4.8	4.8
Oct	5.8	4.8	5.3	5.3
Nov	6.4	6.3	6.4	6.4
Dec	6.4	6.3	6.4	6.4
mean, all data	5.2	5.2	5.2	
mean of months	5.2	5.3		5.3

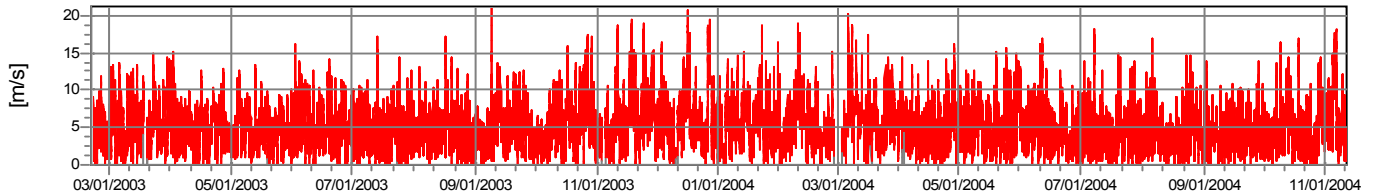
Wind speed [m/s]



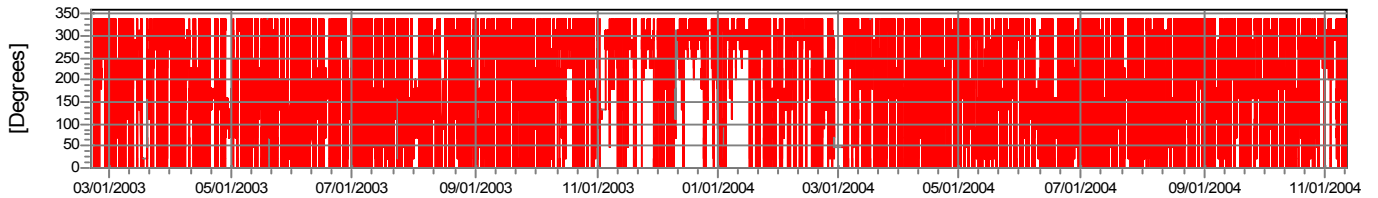
— Wind speed. Height: 20.0 m — Wind direction. Height: 20.0 m

— Wind speed. Height: 20.0 m — Wind direction. Height: 20.0 m

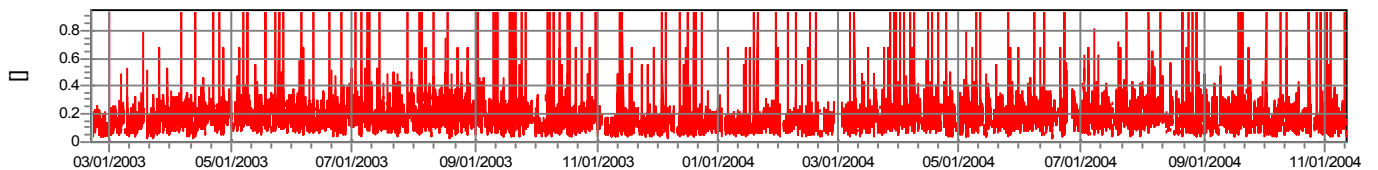
**Wind speed**



**Wind direction**



**Turbulence intensity  
V>4.0 m/s**



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**Northern Cheyenne #01**

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**Meteo data report, height: 20.0 m**

Name of meteo object: Northern Cheyenne #01

**Frequency**

Wind speed	Sum	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
0.00 - 0.49	841	102	35	72	35	57	61	34	54	45	38	37	34	39	35	84	79
0.50 - 1.49	3,769	354	260	266	272	334	299	280	247	239	163	122	127	126	110	228	342
1.50 - 2.49	8,380	701	471	604	618	724	734	656	688	625	340	288	211	260	313	452	695
2.50 - 3.49	13,691	1,094	662	753	722	992	861	997	1,295	1,223	823	602	461	528	636	769	1,273
3.50 - 4.49	14,660	1,173	764	522	579	649	475	846	1,389	1,258	1,158	1,031	666	619	909	1,166	1,456
4.50 - 5.49	12,807	1,219	678	230	338	196	222	559	1,168	1,009	932	1,048	825	598	1,071	1,190	1,524
5.50 - 6.49	10,712	1,091	466	114	198	48	62	247	778	690	529	863	854	582	1,252	1,334	1,604
6.50 - 7.49	7,993	957	295	29	72	6	3	76	367	377	262	620	589	465	1,245	1,239	1,391
7.50 - 8.49	5,673	647	185	15	20	4	0	36	202	239	123	319	277	261	1,089	1,096	1,160
8.50 - 9.49	4,038	470	109	6	1	0	0	22	43	92	71	89	93	137	1,069	906	930
9.50 - 10.49	2,441	253	52	0	0	0	0	20	11	30	19	22	19	57	734	624	600
10.50 - 11.49	1,692	130	19	0	0	0	0	3	4	11	19	0	7	36	540	554	369
11.50 - 12.49	930	75	3	0	0	0	0	0	0	6	14	0	2	17	291	310	212
12.50 - 13.49	622	49	0	0	0	0	0	0	0	2	0	1	7	210	218	135	
13.50 - 14.49	446	21	0	0	0	0	0	0	0	0	0	0	7	150	202	66	
14.50 - 15.49	293	13	0	0	0	0	0	0	0	0	0	0	2	98	158	22	
15.50 - 16.49	204	12	0	0	0	0	0	0	0	0	0	0	1	47	130	14	
16.50 - 17.49	113	2	0	0	0	0	0	0	0	0	0	0	0	33	74	4	
17.50 - 18.49	90	0	0	0	0	0	0	0	0	0	0	0	0	29	59	2	
18.50 - 19.49	26	0	0	0	0	0	0	0	0	0	0	0	0	9	17	0	
19.50 - 20.49	4	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	
20.50 - 21.49	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	
Sum	89,427	8,363	3,999	2,611	2,855	3,010	2,717	3,776	6,246	5,844	4,493	5,041	4,166	3,742	9,873	10,813	11,878

**Turbulence**

Wind speed	Sum	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
0.00 - 0.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.50 - 1.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.50 - 2.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.50 - 3.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.50 - 4.49	0.176	0.214	0.214	0.226	0.216	0.225	0.206	0.189	0.172	0.171	0.158	0.146	0.124	0.134	0.144	0.165	0.182
4.50 - 5.49	0.166	0.209	0.209	0.204	0.208	0.215	0.206	0.186	0.165	0.171	0.154	0.141	0.116	0.109	0.130	0.159	0.181
5.50 - 6.49	0.166	0.213	0.201	0.209	0.192	0.237	0.206	0.190	0.163	0.190	0.166	0.142	0.114	0.106	0.133	0.164	0.194
6.50 - 7.49	0.153	0.201	0.194	0.200	0.188	0.179	0.150	0.179	0.170	0.187	0.154	0.139	0.105	0.094	0.110	0.154	0.177
7.50 - 8.49	0.150	0.198	0.186	0.212	0.181	0.341		0.194	0.171	0.188	0.153	0.141	0.105	0.097	0.107	0.144	0.173
8.50 - 9.49	0.150	0.201	0.187	0.202	0.140			0.183	0.173	0.188	0.165	0.144	0.109	0.102	0.105	0.148	0.178
9.50 - 10.49	0.142	0.193	0.185					0.178	0.146	0.195	0.170	0.155	0.133	0.113	0.098	0.141	0.172
10.50 - 11.49	0.142	0.191	0.190					0.173	0.180	0.194	0.152		0.145	0.132	0.104	0.142	0.174
11.50 - 12.49	0.139	0.186	0.158							0.171	0.156		0.111	0.148	0.104	0.140	0.167
12.50 - 13.49	0.142	0.193									0.140		0.163	0.135	0.107	0.145	0.173
13.50 - 14.49	0.135	0.200											0.136	0.108	0.139	0.166	
14.50 - 15.49	0.135	0.185											0.128	0.111	0.142	0.162	
15.50 - 16.49	0.131	0.177											0.119	0.108	0.131	0.161	
16.50 - 17.49	0.124	0.167												0.104	0.129	0.175	
17.50 - 18.49	0.113													0.106	0.114	0.161	
18.50 - 19.49	0.118													0.115	0.120		
19.50 - 20.49	0.115													0.094	0.122		
20.50 - 21.49	0.114													0.114			
Sum	0.160	0.205	0.202	0.214	0.204	0.223	0.206	0.187	0.167	0.179	0.158	0.142	0.113	0.108	0.115	0.151	0.180

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**Nothern Cheyenne #01**

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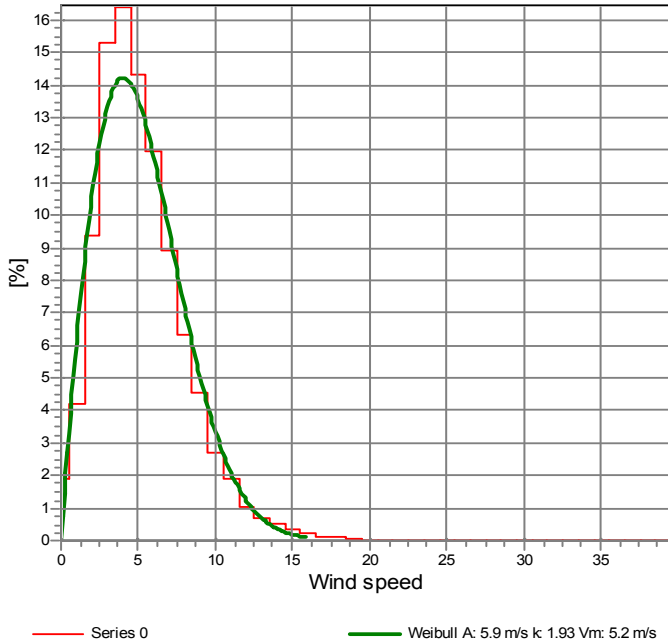
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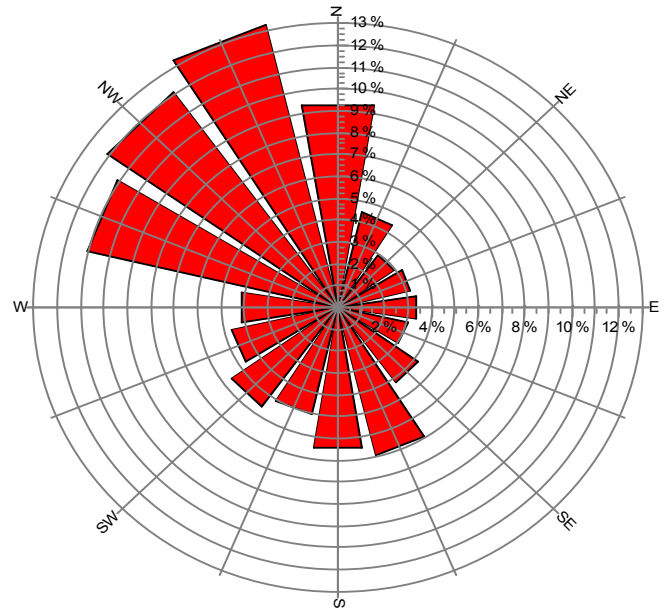
**Meteo data report, height: 20.0 m**

Name of meteo object: Northern Cheyenne #01

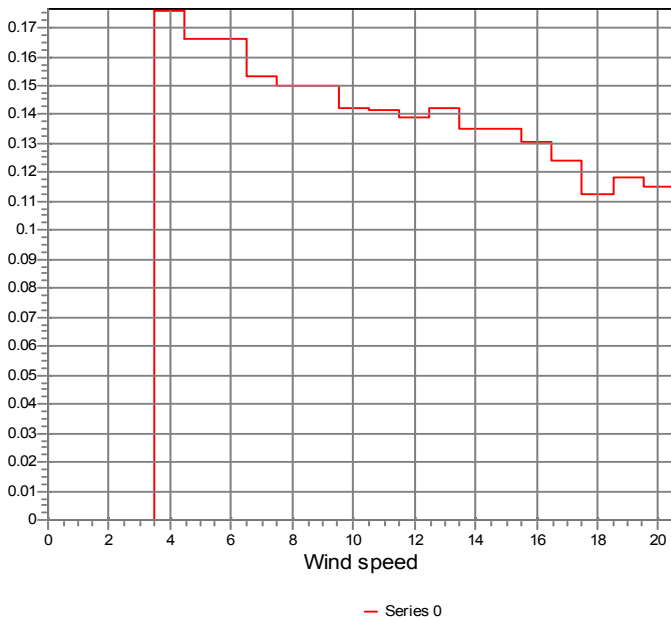
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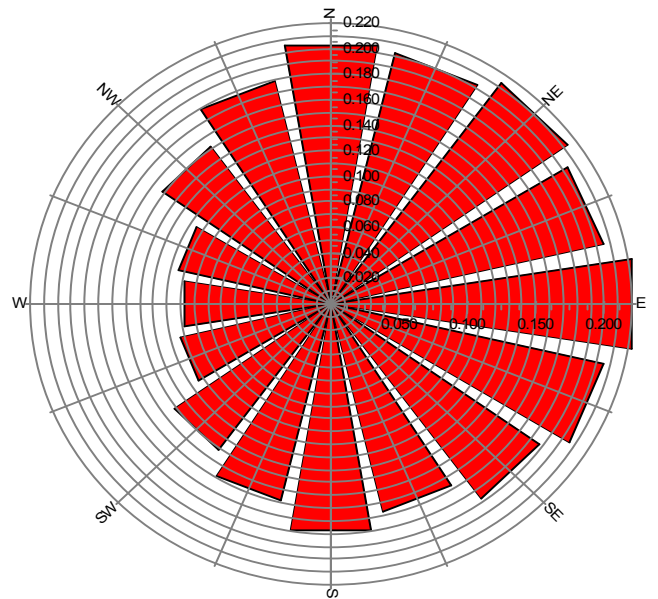
Frequency



Turbulence  
V>4.0 m/s



Turbulence  
V>4.0 m/s



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05/31/2005 12:53 PM/

**Meteo data report, height: 20.0 m**

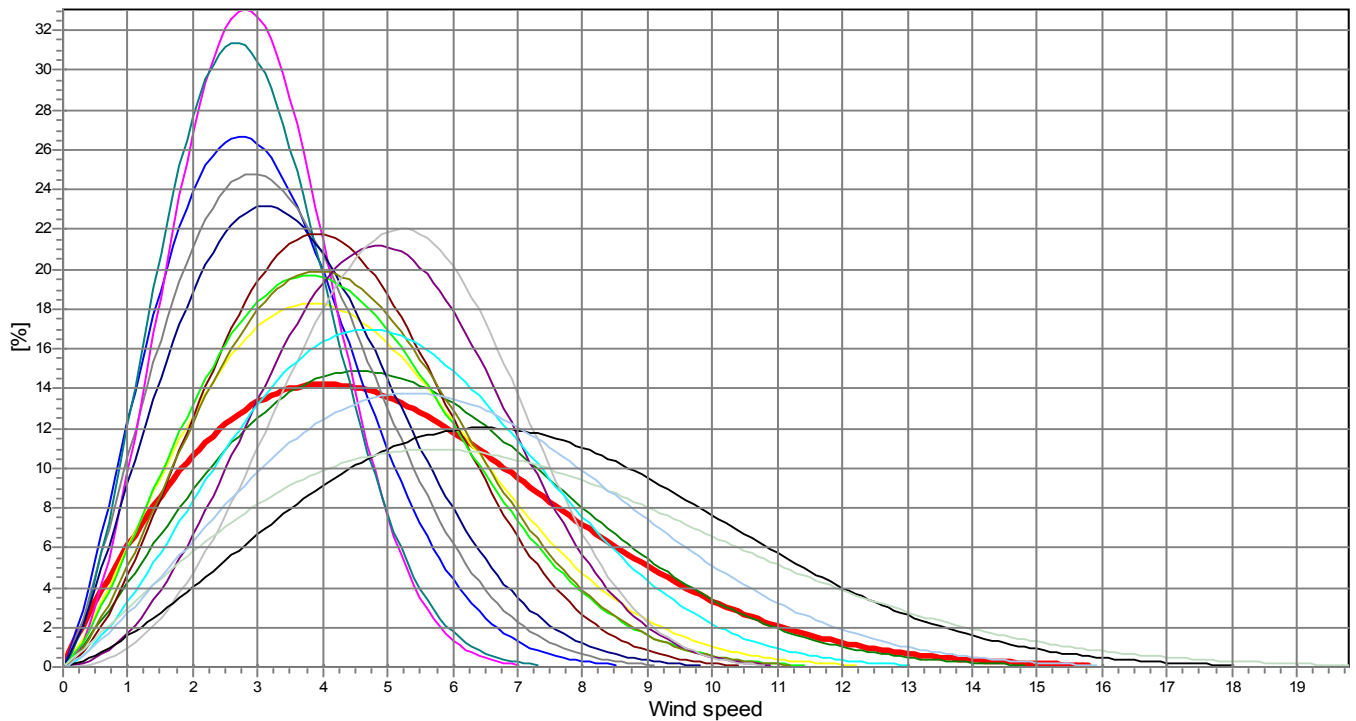
Name of meteo object: Northern Cheyenne #01

**Weibull Data**

k-parameter correction: 0.0080/m

Sector	A- parameter [m/s]	Mean wind speed [m/s]	k- parameter	Frequency	Frequency [%]	Wind shear
0-N	6.09	5.39	2.163	9.35	9.4	0.00
1-NNE	5.03	4.45	2.210	4.47	4.5	0.00
2-NE	3.52	3.12	2.272	2.92	2.9	0.00
3-ENE	3.78	3.35	2.270	3.19	3.2	0.00
4-E	3.31	2.94	2.754	3.37	3.4	0.00
5-ESE	3.25	2.88	2.530	3.04	3.0	0.00
6-SE	4.04	3.57	2.261	4.22	4.2	0.00
7-SSE	4.74	4.21	2.567	6.98	7.0	0.00
8-S	4.83	4.28	2.311	6.53	6.5	0.00
9-SSW	4.93	4.37	2.405	5.02	5.0	0.00
10-SW	5.56	4.96	3.006	5.64	5.6	0.00
11-WSW	5.82	5.22	3.306	4.66	4.7	0.00
12-W	5.83	5.17	2.437	4.18	4.2	0.00
13-WNW	8.13	7.21	2.399	11.04	11.0	0.00
14-NW	7.93	7.02	2.038	12.09	12.1	0.00
15-NNW	6.88	6.09	2.299	13.28	13.3	0.00
mean	5.89	5.23	1.927	100.00	100.0	0.00

Frequency



— Total A: 5.9 m/s k: 1.93 Vm: 5.2 m/s	— N A: 6.1 m/s k: 2.16 Vm: 5.4 m/s	— NNE A: 5.0 m/s k: 2.21 Vm: 4.5 m/s	— NE A: 3.5 m/s k: 2.27 Vm: 3.1 m/s
— ENE A: 3.8 m/s k: 2.27 Vm: 3.3 m/s	— E A: 3.3 m/s k: 2.75 Vm: 2.9 m/s	— ESE A: 3.3 m/s k: 2.53 Vm: 2.9 m/s	— SE A: 4.0 m/s k: 2.26 Vm: 3.6 m/s
— SSE A: 4.7 m/s k: 2.57 Vm: 4.2 m/s	— S A: 4.8 m/s k: 2.31 Vm: 4.3 m/s	— SSW A: 4.9 m/s k: 2.41 Vm: 4.4 m/s	— SW A: 5.6 m/s k: 3.01 Vm: 5.0 m/s
— WSW A: 5.8 m/s k: 3.31 Vm: 5.2 m/s	— W A: 5.8 m/s k: 2.44 Vm: 5.2 m/s	— WNW A: 8.1 m/s k: 2.40 Vm: 7.2 m/s	— NW A: 7.9 m/s k: 2.04 Vm: 7.0 m/s
— NNW A: 6.9 m/s k: 2.30 Vm: 6.1 m/s			