

Project:  
**Pine Ridge**

Description:  
Data from file(s)  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070204.N02  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070527.N02  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070706.N02  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071029.N01  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071231.N01

Printed/Page  
5/2/2007 9:29 AM / 1

Licensed user:  
**National Renewable Energy Laboratory**  
1617 Cole Blvd. (MS3811)  
US-GOLDEN, CO 80401  
+1 303-384-7027

Calculated:  
5/2/2007 9:29 AM/

### Meteo data report, height: 20.0 m

Name of meteo object: Pine Ridge #1 (KILI Radio Station)

Data from: 10/29/2001 8:00 AM Data to: 10/22/2002 9:00 AM Observations: 43903 Observations per day: 144 Recovery rate: 85%

day	10/01	11/01	12/01	01/02	02/02	03/02	04/02	05/02	06/02	07/02	08/02	09/02	10/02
1	144	144	144	144	144	144	144	(0)	144	144	144	144	144
2	144	144	144	144	144	144	144	(0)	144	144	144	144	144
3	144	144	144	144	144	144	144	(0)	144	144	144	144	144
4	144	144	144	144	144	144	(69)	(0)	144	144	144	144	144
5	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
6	144	144	144	144	144	(25)	(0)	(0)	144	144	144	144	144
7	144	144	144	144	144	(42)	(0)	(0)	144	144	144	144	144
8	144	144	144	144	144	(58)	(0)	(0)	144	144	144	144	144
9	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
10	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
11	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
12	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
13	144	144	144	144	144	(100)	(0)	(0)	144	144	144	144	144
14	144	144	144	144	144	(57)	(0)	(0)	144	144	144	144	144
15	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
16	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
17	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
18	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
19	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
20	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
21	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
22	144	144	144	144	144	144	(0)	(0)	144	144	144	144	(55)
23	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
24	144	144	144	144	144	(62)	144	(0)	144	144	144	144	144
25	144	144	144	144	(55)	144	(0)	(0)	144	144	144	144	144
26	144	144	144	144	144	144	(0)	(0)	144	144	144	144	144
27	144	144	144	144	144	144	(0)	(51)	144	144	144	144	144
28	144	144	144	144	144	144	(0)	144	144	144	144	144	144
29	(96)	144	144	144	144	144	(0)	144	144	144	144	144	144
30	144	144	144	144	144	144	(0)	144	144	144	144	144	144
31	144	144	144	144	144	144	144	144	144	144	144	144	144
%	100	100	100	100	(96)	(90)	(12)	(14)	100	100	100	100	(100)

Project:

**Pine Ridge**

Description:

Data from file(s)  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070204.N02  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070527.N02  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070706.N02  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071029.N01  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071231.N01

Printed/Page

5/2/2007 9:29 AM / 2

Licensed user:

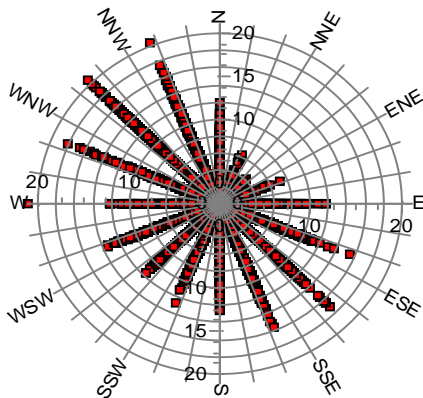
**National Renewable Energy Laboratory**  
 1617 Cole Blvd. (MS3811)  
 US-GOLDEN, CO 80401  
 +1 303-384-7027

Calculated:

5/2/2007 9:29 AM/

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

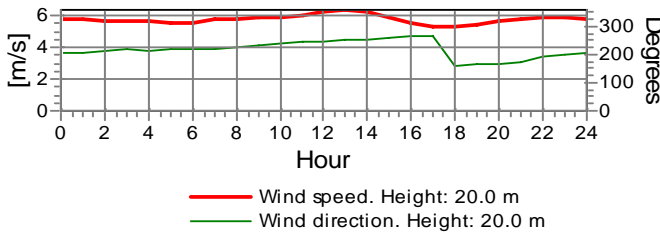
Name of meteo object: Pine Ridge #1 (KILI Radio Station)



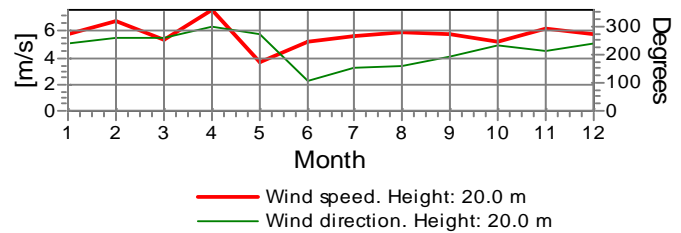
Wind speed [m/s]

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

Month	2001	2002	mean	mean of months
Jan		5.8	5.8	5.8
Feb		6.7	6.7	6.7
Mar		5.3	5.3	5.3
Apr		7.6	7.6	7.6
May		3.7	3.7	3.7
Jun		5.2	5.2	5.2
Jul		5.6	5.6	5.6
Aug		5.9	5.9	5.9
Sep		5.7	5.7	5.7
Oct	6.5	5.1	5.2	5.8
Nov	6.1		6.1	6.1
Dec	5.8		5.8	5.8
mean, all data	6.0	5.7	5.7	
mean of months	6.1	5.7		5.8

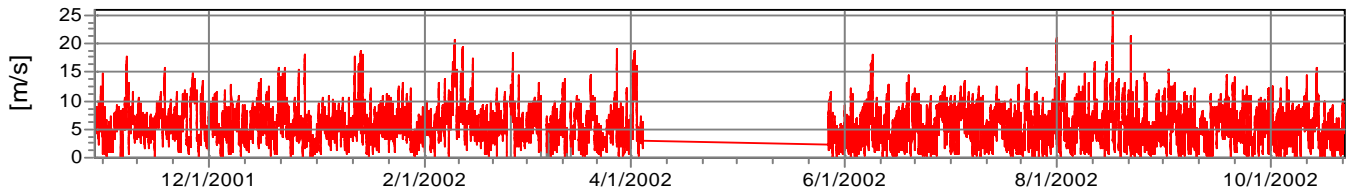


— Wind speed. Height: 20.0 m  
 — Wind direction. Height: 20.0 m

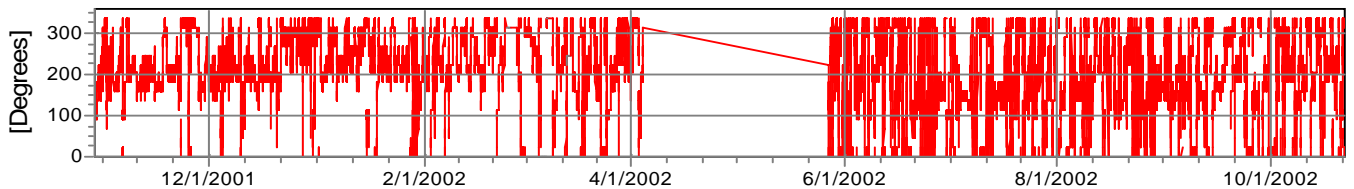


— Wind speed. Height: 20.0 m  
 — Wind direction. Height: 20.0 m

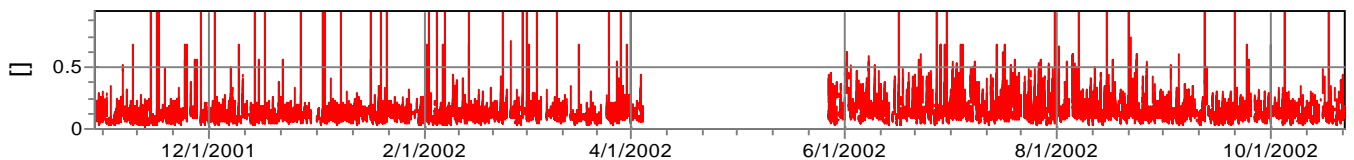
**Wind speed**



**Wind direction**



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



Project:

**Pine Ridge**

Description:

Data from file(s)  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070204.N02  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070527.N02  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070706.N02  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071029.N01  
 Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071231.N01

Printed/Page

5/2/2007 9:29 AM / 3

Licensed user:

**National Renewable Energy Laboratory**  
 1617 Cole Blvd. (MS3811)  
 US-GOLDEN, CO 80401  
 +1 303-384-7027

Calculated:

5/2/2007 9:29 AM/

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

Name of meteo object: Pine Ridge #1 (KILI Radio Station)

**Frequency**

Wind speed m/s	Sum	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
0.00 - 0.49	322	13	19	15	14	10	10	11	23	19	26	21	16	22	41	38	24
0.50 - 1.49	1,916	193	205	99	68	37	79	95	86	92	129	157	138	96	146	154	142
1.50 - 2.49	3,265	349	267	114	110	116	154	147	145	136	224	279	281	171	269	257	246
2.50 - 3.49	4,896	518	208	81	84	186	257	226	242	290	413	565	338	199	425	482	382
3.50 - 4.49	5,454	367	82	19	44	243	334	306	291	419	752	734	353	237	489	495	289
4.50 - 5.49	5,720	256	26	7	16	272	378	318	433	604	931	811	306	225	326	516	295
5.50 - 6.49	5,814	208	5	0	8	194	337	419	692	745	797	831	302	176	229	550	321
6.50 - 7.49	5,282	154	2	1	2	121	239	457	978	665	555	663	264	121	176	572	312
7.50 - 8.49	3,842	76	1	1	0	85	183	399	850	389	289	368	216	102	107	516	260
8.50 - 9.49	2,633	47	0	0	0	66	173	333	485	173	122	153	173	62	80	494	272
9.50 - 10.49	1,503	19	0	0	0	11	100	210	230	68	28	66	128	45	54	352	192
10.50 - 11.49	972	11	0	0	0	11	53	98	161	33	7	21	67	20	47	303	140
11.50 - 12.49	565	4	0	0	0	4	8	46	85	15	2	3	40	8	13	216	121
12.50 - 13.49	371	0	0	0	0	0	3	20	29	3	1	2	16	0	21	195	81
13.50 - 14.49	261	0	0	0	0	0	6	7	11	1	0	0	2	0	18	169	47
14.50 - 15.49	179	2	0	0	0	0	3	6	7	0	0	0	3	0	12	108	38
15.50 - 16.49	116	0	0	0	0	0	1	11	3	0	0	0	0	0	7	72	22
16.50 - 17.49	72	1	0	0	0	0	0	8	0	0	0	0	0	0	6	49	8
17.50 - 18.49	54	0	0	0	0	0	0	1	0	0	0	0	0	0	7	41	5
18.50 - 19.49	30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	26	2
19.50 - 20.49	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	4
20.50 - 21.49	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	2
21.50 - 22.49	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
22.50 - 23.49	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
23.50 - 24.49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.50 - 25.49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25.50 - 26.49	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Sum	43,294	2,218	815	337	346	1,356	2,318	3,118	4,751	3,652	4,276	4,674	2,643	1,485	2,475	5,625	3,205

**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	0.156	0.193	0.220	0.361	0.365	0.225	0.193	0.166	0.140	0.139	0.123	0.137	0.155	0.162	0.141	0.151	0.165
4.50 - 5.49	0.135	0.171	0.259	0.462	0.246	0.199	0.142	0.136	0.123	0.120	0.108	0.124	0.149	0.145	0.145	0.131	0.145
5.50 - 6.49	0.129	0.173	0.346		0.384	0.177	0.141	0.125	0.108	0.104	0.110	0.132	0.166	0.153	0.147	0.131	0.136
6.50 - 7.49	0.116	0.156	0.229	0.455	0.405	0.142	0.120	0.108	0.091	0.100	0.095	0.123	0.158	0.151	0.137	0.127	0.139
7.50 - 8.49	0.117	0.146	0.150	0.457		0.140	0.118	0.112	0.094	0.105	0.095	0.130	0.154	0.165	0.140	0.126	0.135
8.50 - 9.49	0.128	0.139				0.155	0.111	0.120	0.113	0.114	0.115	0.145	0.160	0.149	0.141	0.132	0.138
9.50 - 10.49	0.129	0.142				0.151	0.109	0.122	0.121	0.128	0.094	0.150	0.156	0.154	0.137	0.127	0.128
10.50 - 11.49	0.133	0.138				0.156	0.114	0.123	0.127	0.128	0.139	0.147	0.157	0.168	0.149	0.130	0.133
11.50 - 12.49	0.128	0.147				0.144	0.115	0.122	0.129	0.117	0.217	0.146	0.151	0.140	0.127	0.128	0.123
12.50 - 13.49	0.128						0.115	0.117	0.117	0.168	0.155	0.166	0.154		0.128	0.128	0.129
13.50 - 14.49	0.128						0.110	0.125	0.139	0.090			0.139		0.131	0.129	0.125
14.50 - 15.49	0.130	0.149					0.107	0.129	0.109				0.130		0.142	0.128	0.137
15.50 - 16.49	0.129						0.112	0.122	0.127						0.144	0.129	0.127
16.50 - 17.49	0.127	0.139						0.124							0.133	0.128	0.116
17.50 - 18.49	0.131							0.120							0.142	0.130	0.131
18.50 - 19.49	0.125														0.139	0.122	0.146
19.50 - 20.49	0.128															0.126	0.136
20.50 - 21.49	0.161												0.247			0.155	0.134
21.50 - 22.49	0.280															0.280	
22.50 - 23.49	0.126															0.126	
23.50 - 24.49																	
24.50 - 25.49																	
25.50 - 26.49	0.112															0.112	
Sum	0.129	0.168	0.248	0.414	0.329	0.180	0.135	0.123	0.107	0.111	0.107	0.129	0.157	0.153	0.142	0.130	0.137

Project:

**Pine Ridge**

Description:

Data from file(s)  
 Y:\15000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070204.N02  
 Y:\15000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070527.N02  
 Y:\15000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070706.N02  
 Y:\15000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071029.N01  
 Y:\15000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071231.N01

Printed/Page

5/2/2007 9:29 AM / 4

Licensed user:

**National Renewable Energy Laboratory**  
 1617 Cole Blvd. (MS3811)  
 US-GOLDEN, CO 80401  
 +1 303-384-7027

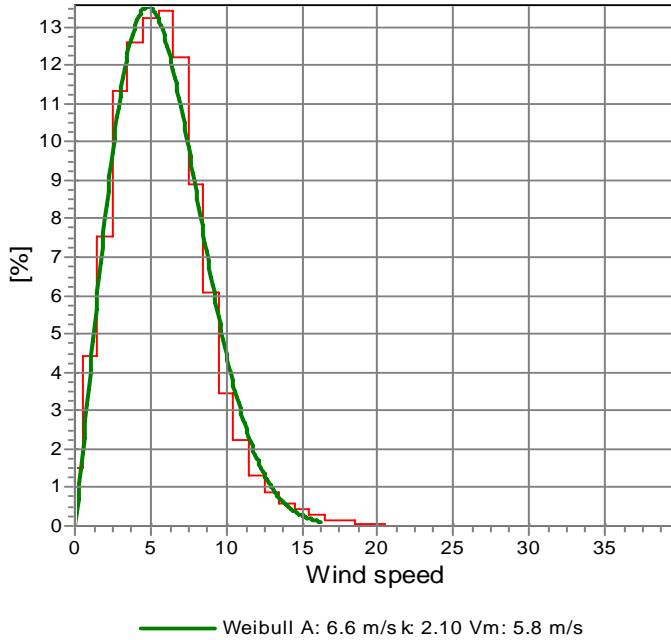
Calculated:

5/2/2007 9:29 AM/

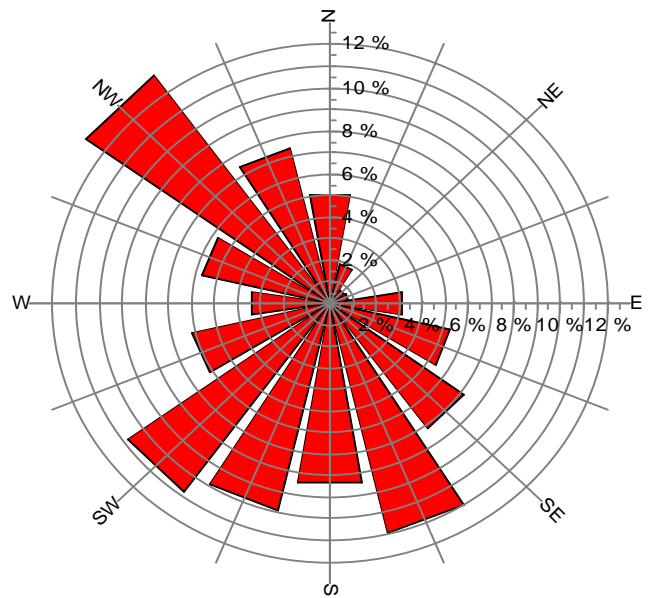
**Meteo data report, height: 20.0 m**

Name of meteo object: Pine Ridge #1 (KILI Radio Station)

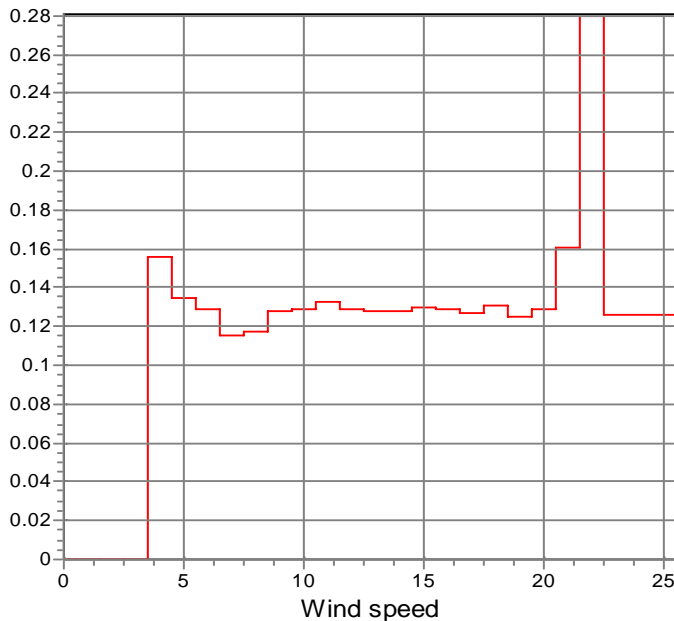
Frequency



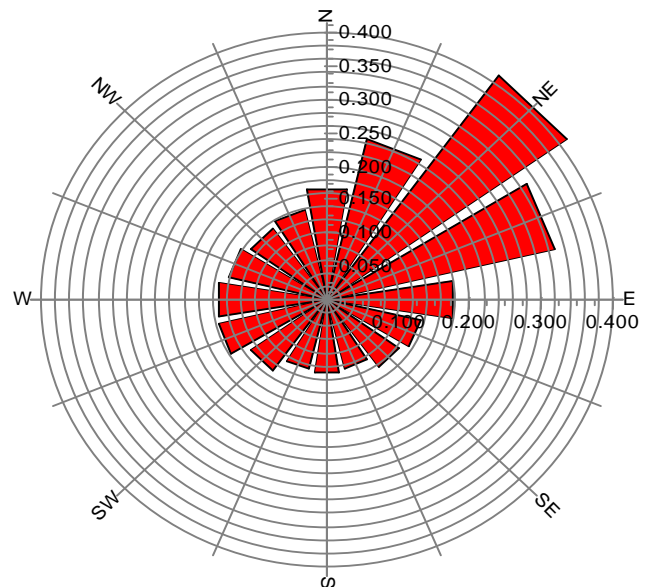
Frequency



Turbulence  
V>4.0 m/s



Turbulence  
V>4.0 m/s



Project:  
**Pine Ridge**

Description:  
Data from file(s)  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070204.N02  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070527.N02  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00070706.N02  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071029.N01  
Y:\5000\shared\Anemometer\_Loan\_Programs\Native American Loans\SD - Pine Ridge - SD\Pine Ridge Raw Wind Data\00071231.N01

Printed/Page  
5/2/2007 9:29 AM / 5

Licensed user:  
**National Renewable Energy Laboratory**  
1617 Cole Blvd. (MS3811)  
US-GOLDEN, CO 80401  
+1 303-384-7027

Calculated:  
5/2/2007 9:29 AM/

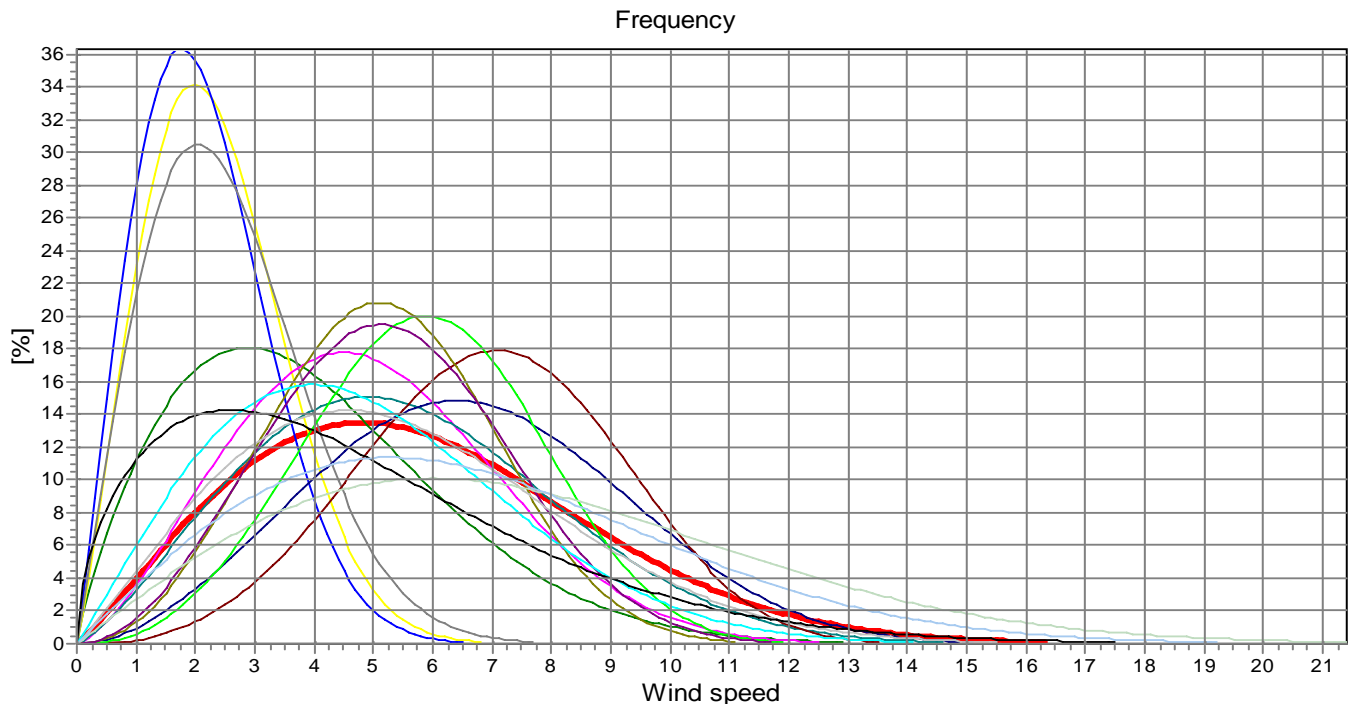
### Meteo data report, height: 20.0 m

Name of meteo object: Pine Ridge #1 (KILI Radio Station)

#### 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	4.47	3.97	1.812	5.12	5.1	0.00
1-NNE	2.65	2.35	2.168	1.88	1.9	0.00
2-NE	2.43	2.15	2.080	0.78	0.8	0.00
3-ENE	2.85	2.52	2.037	0.80	0.8	0.00
4-E	5.58	4.94	2.442	3.13	3.1	0.00
5-ESE	6.28	5.57	2.299	5.35	5.4	0.00
6-SE	7.50	6.68	2.812	7.20	7.2	0.00
7-SSE	7.75	6.98	3.615	10.97	11.0	0.00
8-S	6.53	5.86	3.382	8.44	8.4	0.00
9-SSW	5.79	5.18	3.090	9.88	9.9	0.00
10-SW	5.91	5.28	2.933	10.80	10.8	0.00
11-WSW	6.21	5.50	2.097	6.10	6.1	0.00
12-W	5.50	4.88	2.044	3.43	3.4	0.00
13-WNW	5.25	4.73	1.524	5.72	5.7	0.00
14-NW	8.49	7.52	1.998	12.99	13.0	0.00
15-NNW	7.52	6.67	1.991	7.40	7.4	0.00
mean	6.55	5.80	2.098	100.00	100.0	0.00



— Total A: 6.6 m/s k: 2.10 Vm: 5.8 m/s	— N A: 4.5 m/s k: 1.81 Vm: 4.0 m/s	— NNE A: 2.7 m/s k: 2.17 Vm: 2.4 m/s
— NE A: 2.4 m/s k: 2.08 Vm: 2.1 m/s	— ENE A: 2.8 m/s k: 2.04 Vm: 2.5 m/s	— E A: 5.6 m/s k: 2.44 Vm: 4.9 m/s
— ESE A: 6.3 m/s k: 2.30 Vm: 5.6 m/s	— SE A: 7.5 m/s k: 2.81 Vm: 6.7 m/s	— SSE A: 7.7 m/s k: 3.61 Vm: 7.0 m/s
— S A: 6.5 m/s k: 3.38 Vm: 5.9 m/s	— SSW A: 5.8 m/s k: 3.09 Vm: 5.2 m/s	— SW A: 5.9 m/s k: 2.93 Vm: 5.3 m/s
— WSW A: 6.2 m/s k: 2.10 Vm: 5.5 m/s	— W A: 5.5 m/s k: 2.04 Vm: 4.9 m/s	— WNW A: 5.3 m/s k: 1.52 Vm: 4.7 m/s
— NW A: 8.5 m/s k: 2.00 Vm: 7.5 m/s	— NNW A: 7.5 m/s k: 1.99 Vm: 6.7 m/s	