

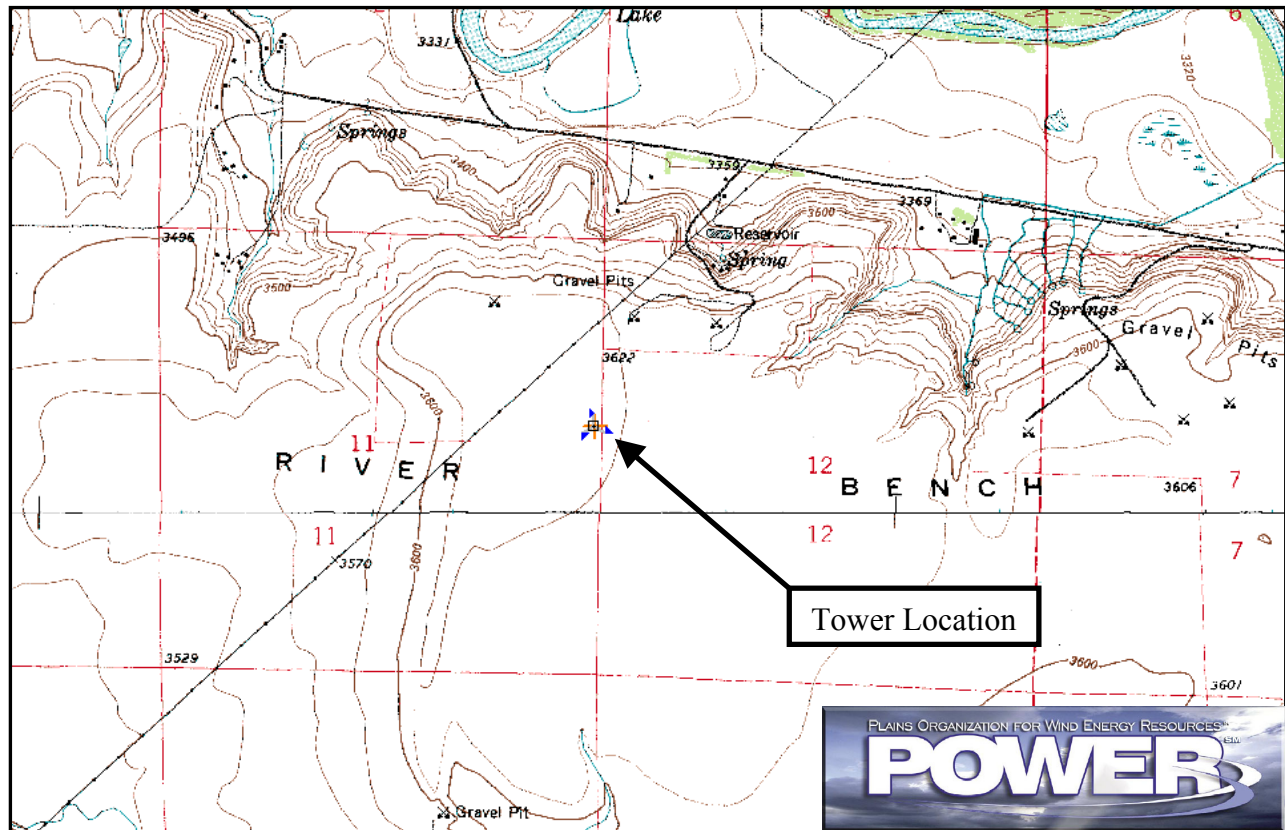
Wind Resource Summary for Great Falls, MT

Spring 2003 (March – May 2003)

Site Description:

Latitude: N 47° 30' 10"	Township: 20 N
Longitude: W 111° 25' 56"	Range: 2 E
Elevation: 3,627 feet	Section: 11
Tower Type: NRG Tilt-Up	Tower Height: 131 feet

The tower is approximately 7 miles west of Great Falls and located on a rim above the Sun River. The site has good exposure to the wind in all directions.

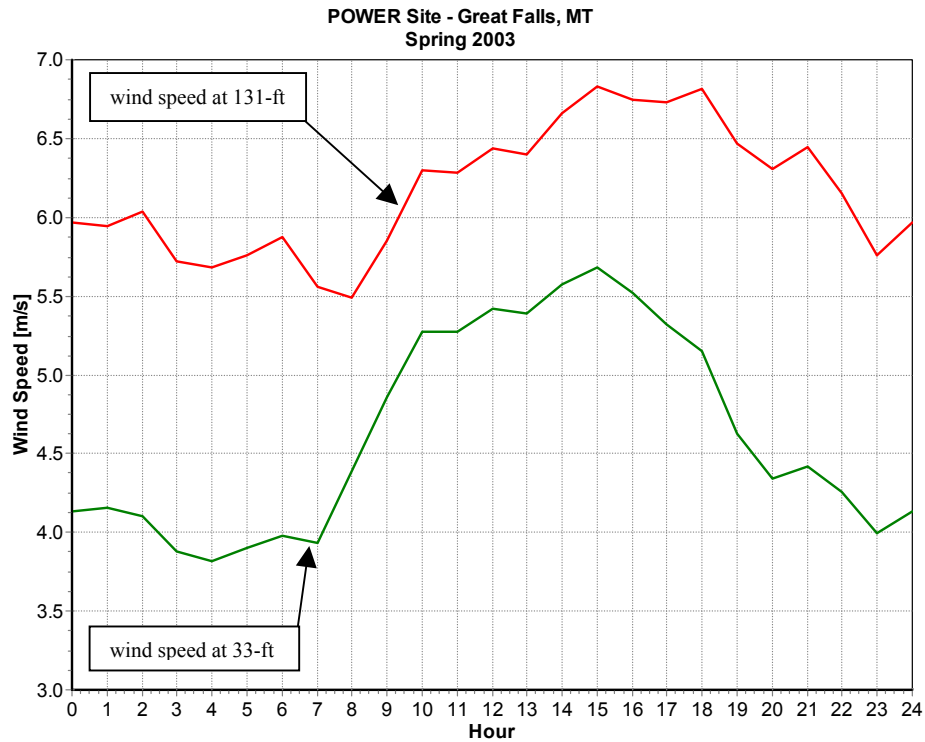


Summary Wind Data:	33-ft AGL ^a	98-ft AGL	131-ft AGL
Mean Wind Speed	10.4 mph	12.6 mph	13.8 mph
Maximum, 10-min Mean Wind Speed	38.9 mph	43.3 mph	47.3 mph
Mean Wind Power Density	125 W/m ²	209 W/m ²	276 W/m ²

^a Above ground level.

Average Hourly Wind Speeds

LST	131-ft AGL	131-ft AGL	33-ft AGL	33-ft AGL
	(m/s)	(mph)	(m/s)	(mph)
0000	5.97	13.4	4.14	9.3
0100	5.95	13.3	4.15	9.3
0200	6.04	13.5	4.10	9.2
0300	5.72	12.8	3.88	8.7
0400	5.68	12.7	3.82	8.5
0500	5.76	12.9	3.90	8.7
0600	5.88	13.1	3.98	8.9
0700	5.56	12.4	3.94	8.8
0800	5.49	12.3	4.39	9.8
0900	5.85	13.1	4.86	10.9
1000	6.30	14.1	5.27	11.8
1100	6.28	14.1	5.27	11.8
1200	6.44	14.4	5.42	12.1
1300	6.40	14.3	5.39	12.1
1400	6.66	14.9	5.58	12.5
1500	6.83	15.3	5.68	12.7
1600	6.75	15.1	5.52	12.3
1700	6.73	15.0	5.32	11.9
1800	6.82	15.2	5.15	11.5
1900	6.47	14.5	4.62	10.3
2000	6.31	14.1	4.34	9.7
2100	6.45	14.4	4.42	9.9
2200	6.15	13.8	4.26	9.5
2300	5.76	12.9	4.00	8.9

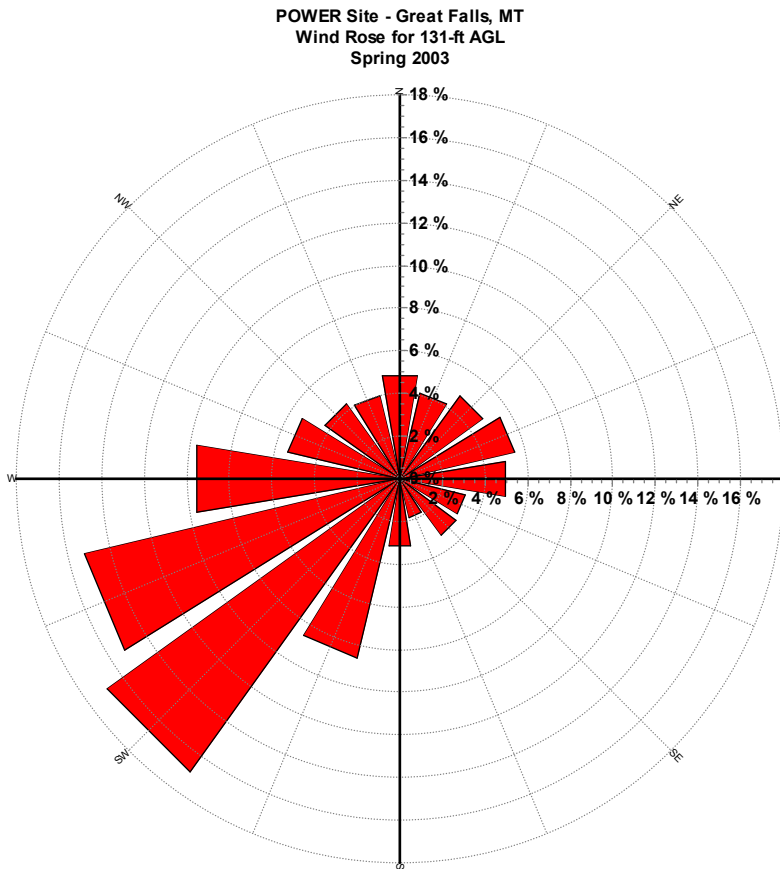


Energy & Environmental Research Center
701-777-5000 or wind@undeerc.org

Creation Date: 11/06/2003

Wind Directional Frequency

Winds from the...	Frequency (%)
NNW	4.0
NW	4.3
WNW	5.4
W	9.7
WSW	15.2
SW	16.9
SSW	8.6
S	3.2
SSE	1.9
SE	3.3
ESE	3.2
E	5.0
ENE	5.5
NE	4.8
NNE	4.1
N	4.9



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