

# Wind Resource Summary for Great Falls Site

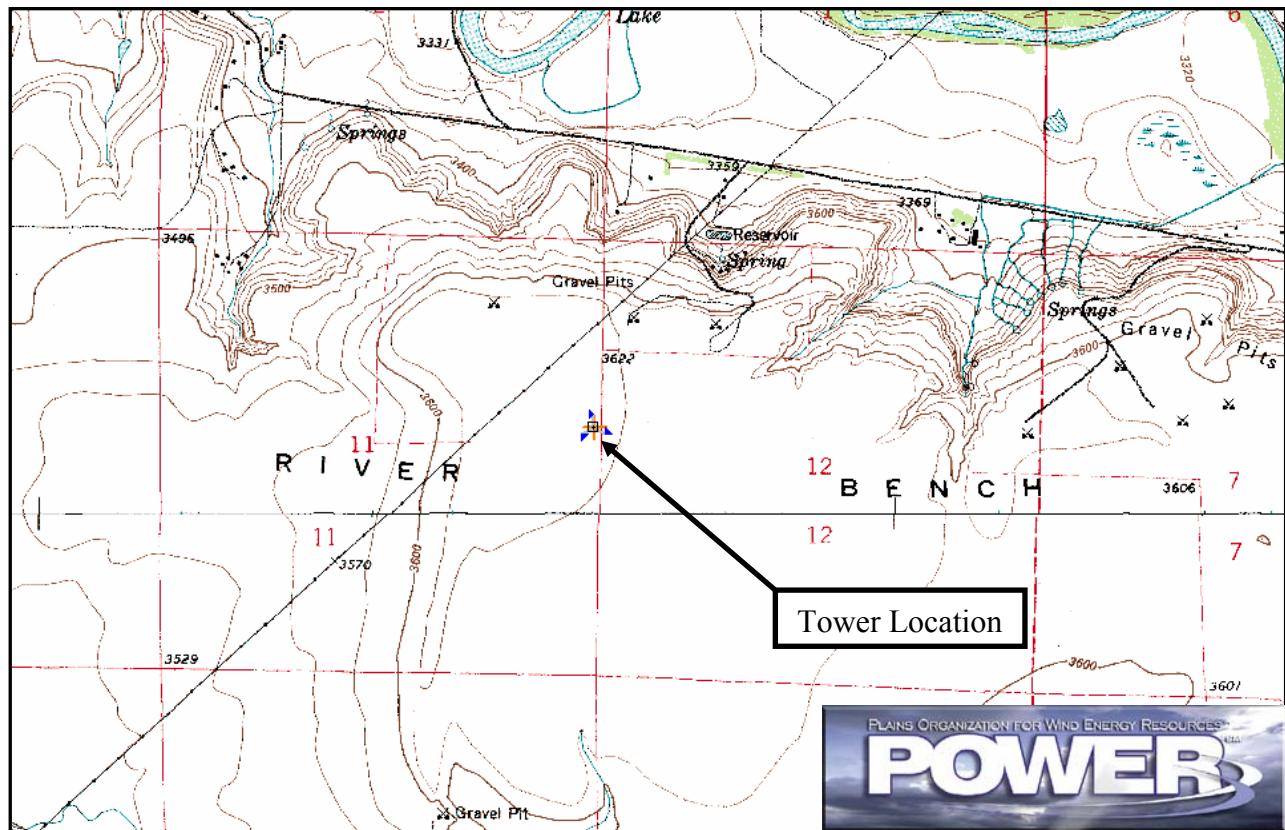
Plains Organization for Wind Energy Resources

Monitoring Period:<sup>a</sup> 10/24/2002 – 6/24/2004

## 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 <sup>b</sup>	98 ft AGL	131 ft AGL
Mean Wind Speed	11.3 mph	13.8 mph	15.3 mph
Maximum, 10-min Mean Wind Speed	61.5 mph – 11/19/2003 10:00 a.m.		
Estimated Wind Power Class <sup>c</sup>	Class 3 (356 W/m <sup>2</sup> at 131 ft AGL)		

<sup>a</sup> Data recovery rates at 33, 98, and 131 feet were 95%, 95%, and 95%, respectively.

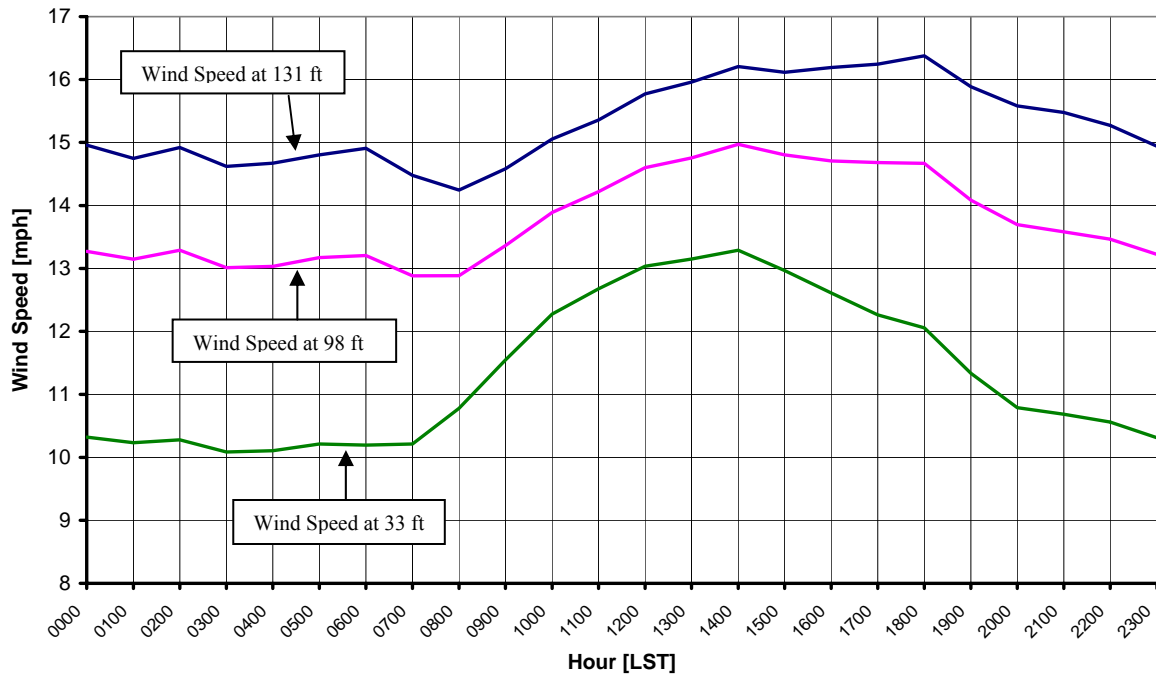
<sup>b</sup> Above ground level.

<sup>c</sup> Air temperature was not factored into calculation.

## Average Hourly Wind Speeds

LST <sup>d</sup>	131 ft AGL		98 ft AGL		33 ft AGL	
	mph	m/s	mph	m/s	mph	m/s
0000	15.0	6.69	13.3	5.93	10.3	4.61
0100	14.7	6.59	13.1	5.88	10.2	4.57
0200	14.9	6.67	13.3	5.94	10.3	4.60
0300	14.6	6.54	13.0	5.82	10.1	4.51
0400	14.7	6.56	13.0	5.83	10.1	4.52
0500	14.8	6.62	13.2	5.89	10.2	4.56
0600	14.9	6.66	13.2	5.90	10.2	4.56
0700	14.5	6.47	12.9	5.76	10.2	4.57
0800	14.2	6.37	12.9	5.76	10.8	4.82
0900	14.6	6.52	13.4	5.97	11.5	5.16
1000	15.1	6.73	13.9	6.21	12.3	5.49
1100	15.4	6.87	14.2	6.36	12.7	5.67
1200	15.8	7.05	14.6	6.53	13.0	5.83
1300	16.0	7.14	14.8	6.60	13.2	5.88
1400	16.2	7.24	15.0	6.69	13.3	5.94
1500	16.1	7.20	14.8	6.62	13.0	5.80
1600	16.2	7.24	14.7	6.58	12.6	5.64
1700	16.2	7.26	14.7	6.56	12.3	5.48
1800	16.4	7.32	14.7	6.56	12.1	5.39
1900	15.9	7.10	14.1	6.30	11.3	5.07
2000	15.6	6.97	13.7	6.12	10.8	4.82
2100	15.5	6.92	13.6	6.07	10.7	4.78
2200	15.3	6.83	13.5	6.02	10.6	4.72
2300	14.9	6.68	13.2	5.91	10.3	4.61

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<sup>d</sup> Local standard time.



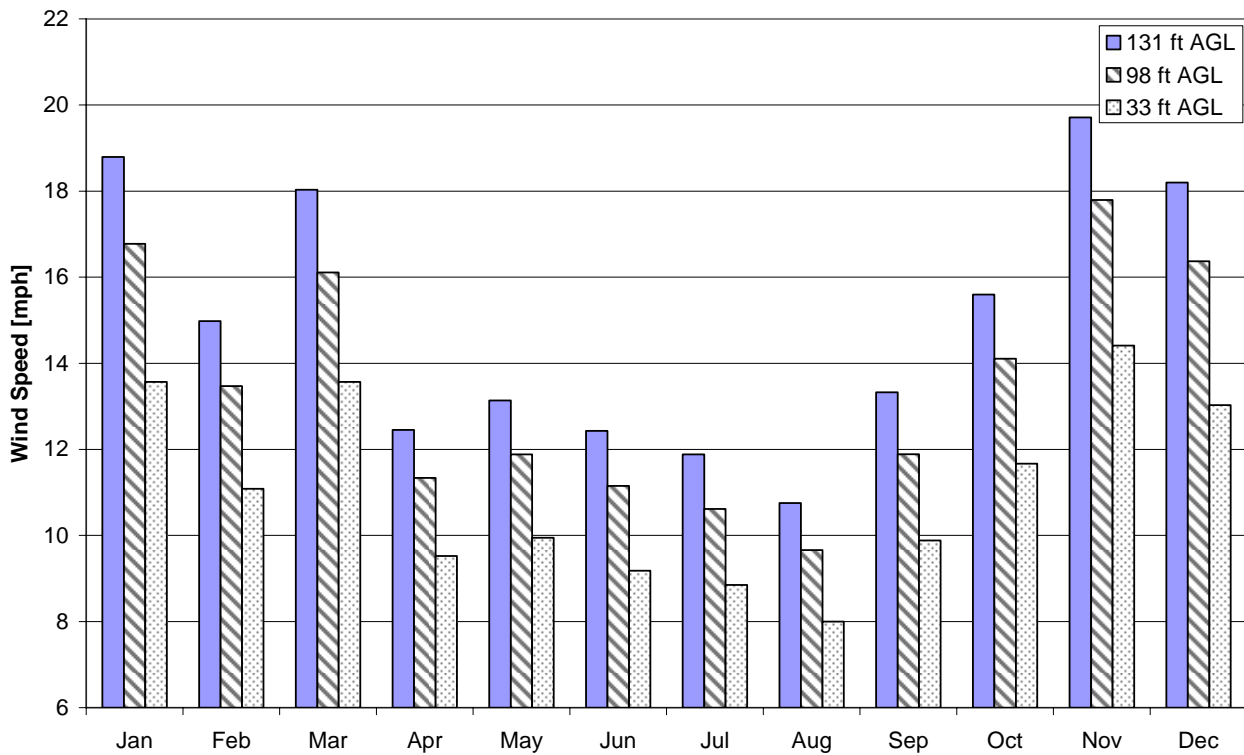
Energy & Environmental Research Center  
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## Monthly Wind Speed Averages

Month	131 ft AGL		98 ft AGL		33 ft AGL	
	mph	m/s	mph	m/s	mph	m/s
Jan	18.8	8.40	16.8	7.50	13.6	6.07
Feb	15.0	6.70	13.5	6.02	11.1	4.96
Mar	18.0	8.06	16.1	7.20	13.6	6.07
Apr	12.4	5.57	11.3	5.07	9.5	4.26
May	13.1	5.87	11.9	5.31	9.9	4.45
Jun	12.4	5.56	11.2	4.99	9.2	4.11
Jul	11.9	5.31	10.6	4.75	8.9	3.96
Aug	10.8	4.81	9.7	4.32	8.0	3.58
Sep	13.3	5.96	11.9	5.31	9.9	4.42
Oct	15.6	6.97	14.1	6.31	11.7	5.22
Nov	19.7	8.81	17.8	7.96	14.4	6.44
Dec	18.2	8.14	16.4	7.32	13.0	5.82

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