

Wind Resource Summary for Fort Yates Site

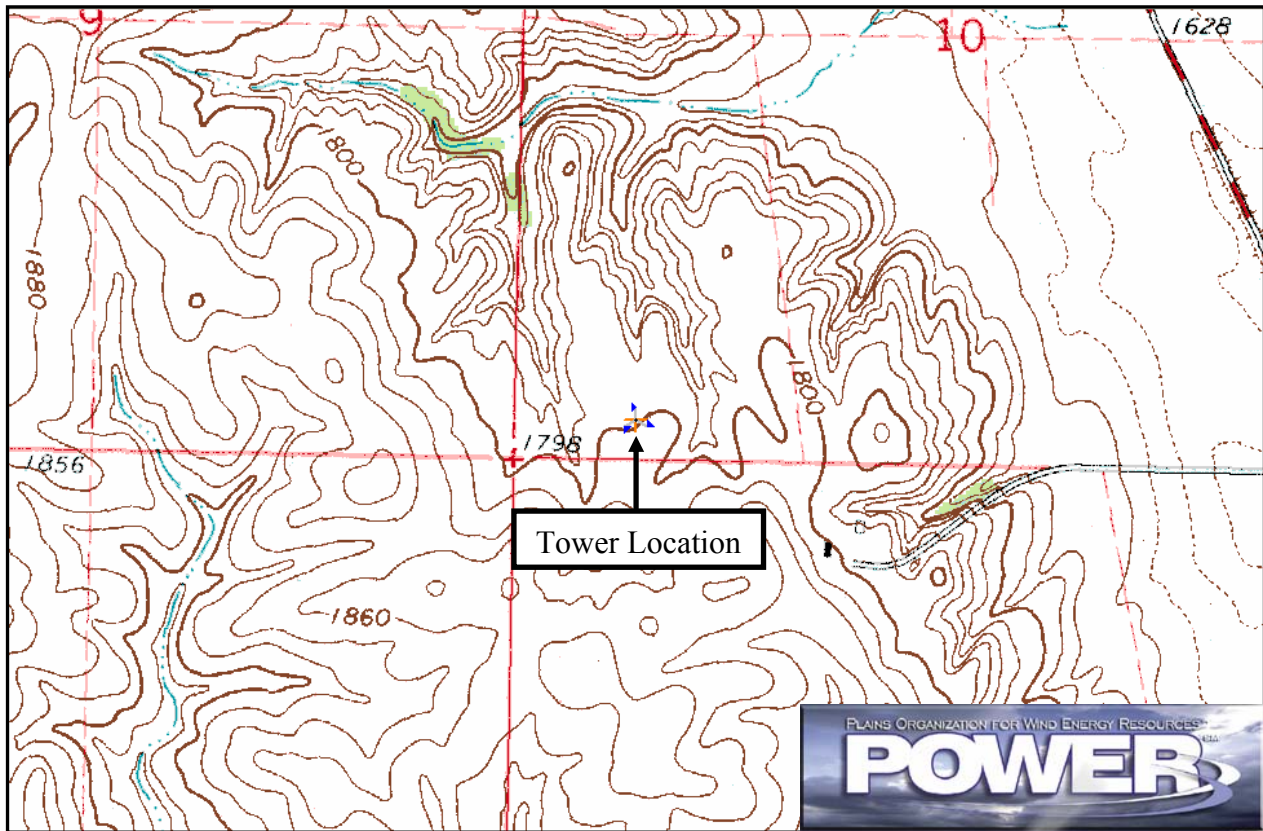
Standing Rock Sioux Tribe

Fall^a 1996

Site Description:

Latitude: N 46° 5' 20"	Township: 130 N
Longitude: W 100° 41' 15"	Range: 80 W
Elevation: 1800 feet	Section: 34
Tower Type: NRG Tilt-Up	Tower Height: 131 feet

The monitoring site was 2.8 miles west of the town of Fort Yates, North Dakota. The tower was instrumented at three levels: 33 ft (10 m), 98 ft (30 m), and 131 ft (40 m). Slaughter House Bay of Lake Oahe is approximately 1 mile to the northeast. The landscape is very rugged with numerous ravines and hills. The vegetation is predominantly native grasses.



Summary Wind Data:	33 ft AGL ^b	98 ft AGL	131 ft AGL
Mean Wind Speed	10.6 mph	13.1 mph	15.2 mph
Maximum, 60-min Mean Wind Speed	48.5 mph at 131 ft AGL – 10/29/1996 6:00 p.m.		
Estimated Wind Power Class ^c	Class 4 (374 W/m ² at 131 ft AGL)		

^a Fall is defined as the months of September, October and November. Fall 1996 begins in October 1996.

Data recovery rates at 33, 98, and 131 feet were 98%, 88%, and 85%, respectively.

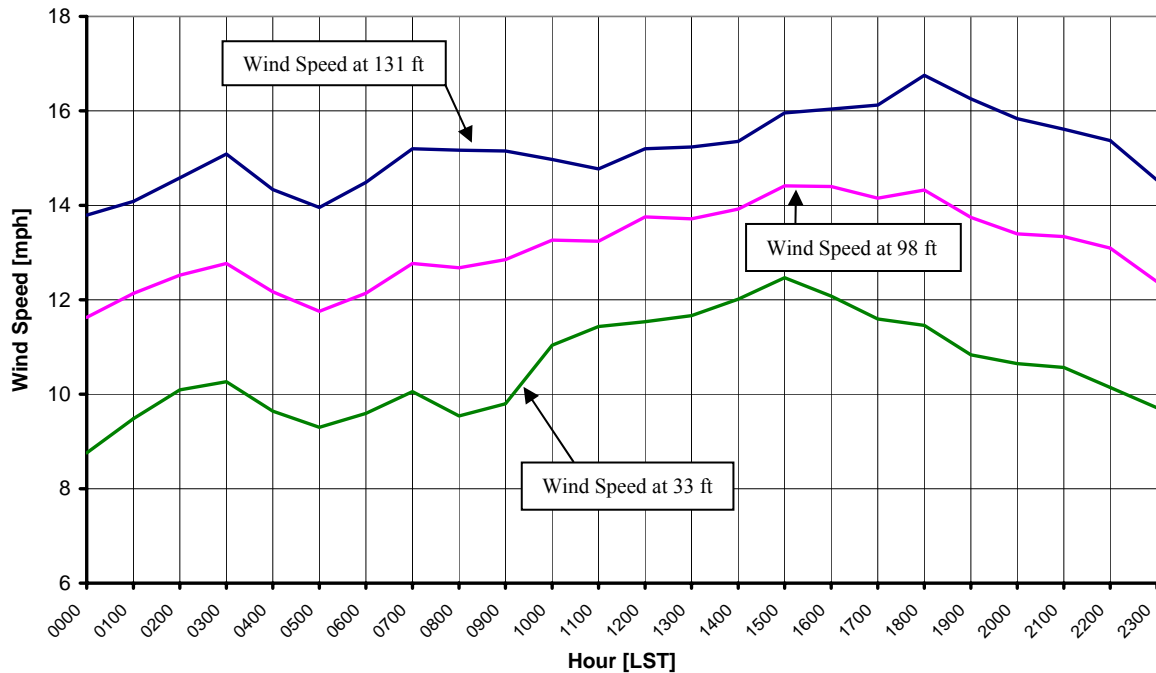
^b Above ground level.

^c Air temperature was not factored into calculations.

Average Hourly Wind Speeds

LST ^d	131 ft AGL		98 ft AGL		33 ft AGL	
	mph	m/s	mph	m/s	mph	m/s
0000	13.8	6.17	11.6	5.20	8.8	3.91
0100	14.1	6.30	12.1	5.42	9.5	4.24
0200	14.6	6.52	12.5	5.60	10.1	4.51
0300	15.1	6.74	12.8	5.71	10.3	4.59
0400	14.3	6.41	12.2	5.44	9.6	4.31
0500	14.0	6.24	11.8	5.25	9.3	4.16
0600	14.5	6.48	12.1	5.43	9.6	4.29
0700	15.2	6.79	12.8	5.71	10.1	4.50
0800	15.2	6.78	12.7	5.67	9.5	4.26
0900	15.1	6.77	12.8	5.74	9.8	4.38
1000	15.0	6.69	13.3	5.93	11.0	4.93
1100	14.8	6.60	13.2	5.92	11.4	5.11
1200	15.2	6.79	13.8	6.15	11.5	5.16
1300	15.2	6.81	13.7	6.13	11.7	5.21
1400	15.4	6.86	13.9	6.22	12.0	5.37
1500	16.0	7.13	14.4	6.44	12.5	5.57
1600	16.0	7.17	14.4	6.44	12.1	5.40
1700	16.1	7.21	14.2	6.33	11.6	5.18
1800	16.8	7.49	14.3	6.40	11.5	5.12
1900	16.3	7.27	13.7	6.14	10.8	4.84
2000	15.8	7.08	13.4	5.99	10.6	4.76
2100	15.6	6.98	13.3	5.96	10.6	4.72
2200	15.4	6.87	13.1	5.85	10.1	4.54
2300	14.5	6.50	12.4	5.54	9.7	4.34

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^d Local standard time.



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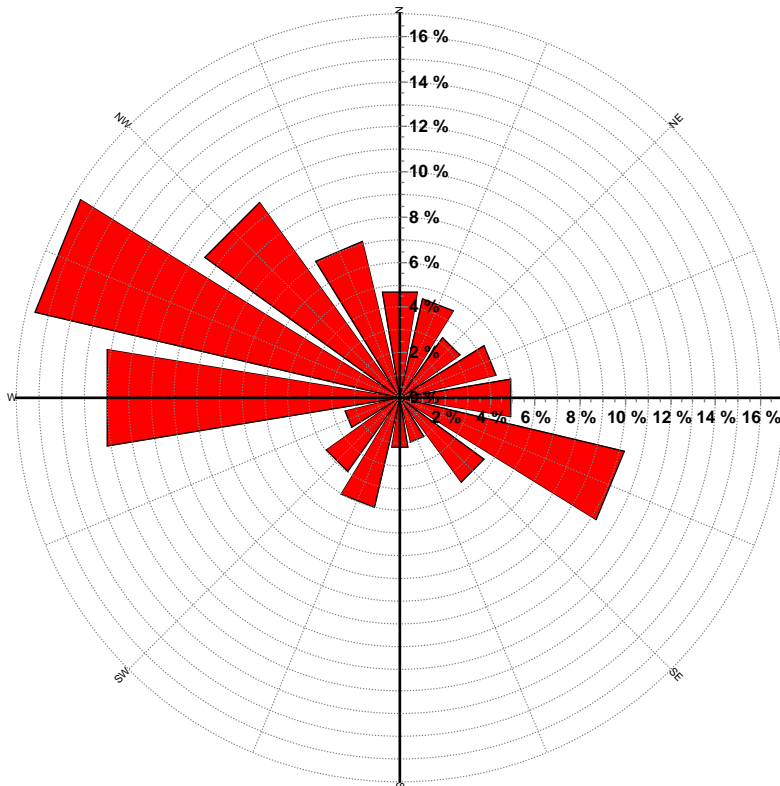
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Wind Directional Frequency

Winds from the... Frequency (%)

NNW	7.1
NW	10.6
WNW	16.6
W	13.1
WSW	2.5
SW	4.0
SSW	5.0
S	2.3
SSE	2.0
SE	4.6
ESE	10.3
E	5.0
ENE	4.4
NE	3.3
NNE	4.5
N	4.8

Standing Rock Sioux Tribe – Fort Yates Site
Wind Rose for 131 ft AGL
Fall 1996



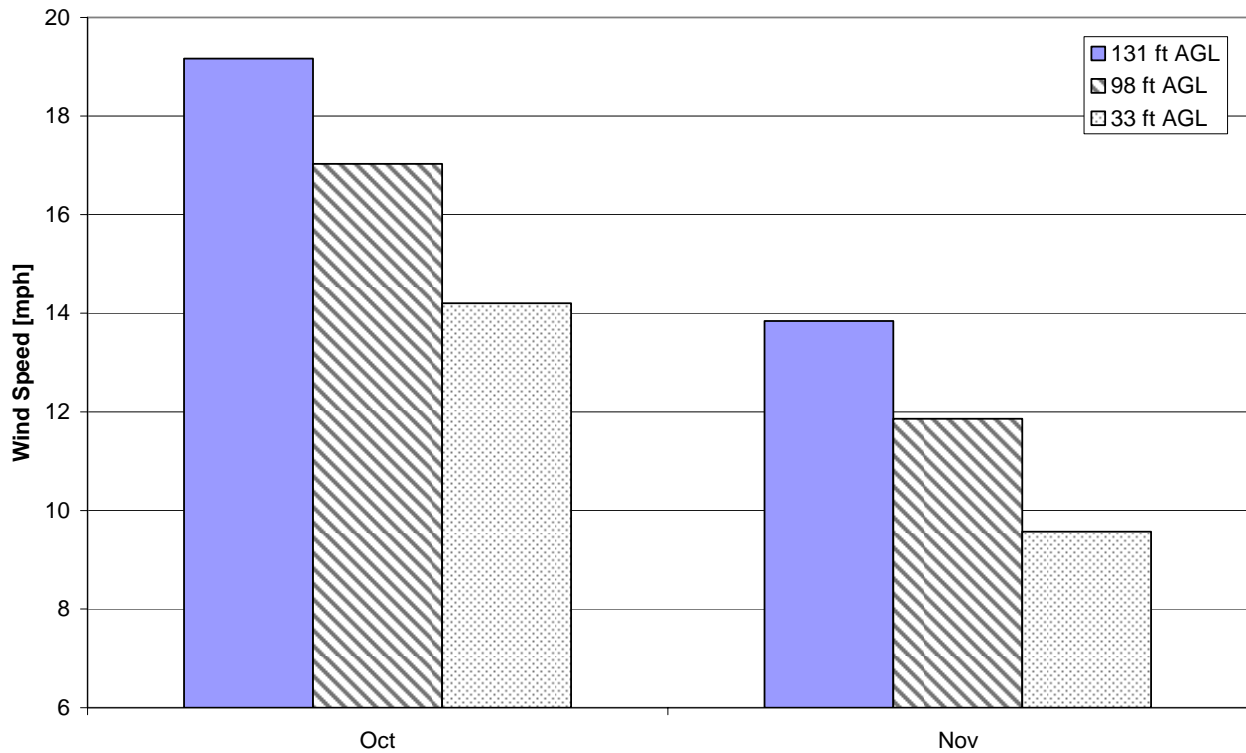
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Monthly Wind Speed Averages

Month	131 ft AGL		98 ft AGL		33 ft AGL	
	mph	m/s	mph	m/s	mph	m/s
Sep	N/A	N/A	N/A	N/A	N/A	N/A
Oct	19.2	8.57	17.0	7.61	14.2	6.35
Nov	13.8	6.19	11.9	5.30	9.6	4.28

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