



windNavigator  
Campaign Management Report

**Arkansas Tall Tower Program  
May 2011**

Submitted To:  
Arkansas Economic Development Commission

Submitted By:  
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ID NUMBER: 27169

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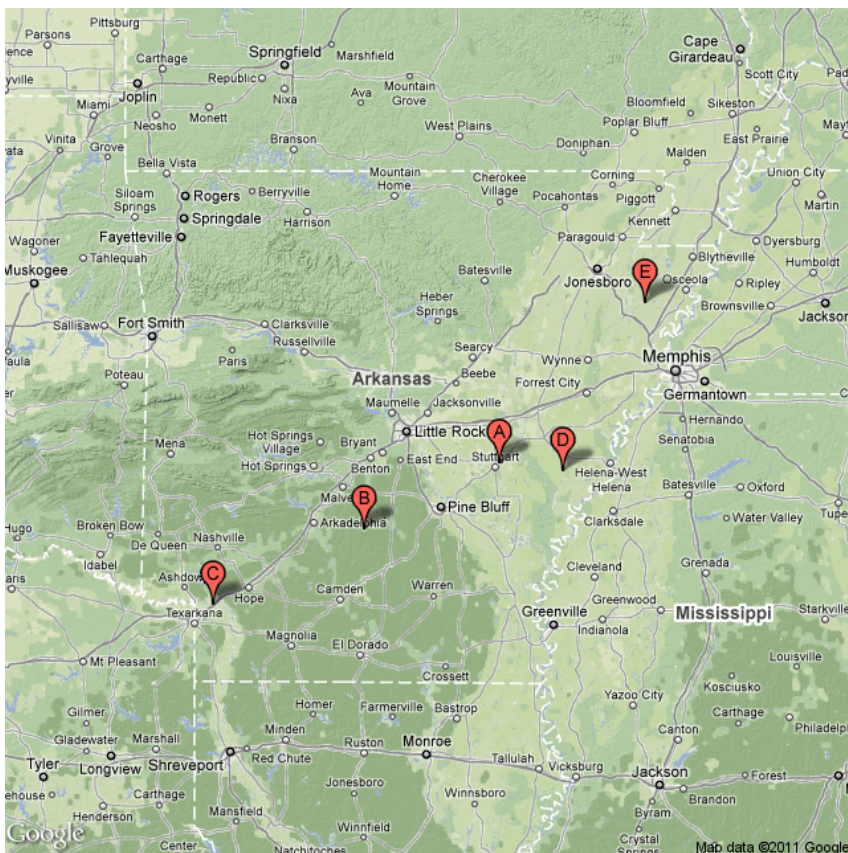
## Executive Summary

This report summarizes the May 2011 wind resource of 5 masts in the Arkansas Tall Tower Program project area. A map of the project area and the location of each project mast is presented below.

The 80-m projected wind speeds for May 2011 range from 6.07 m/s (Mast AR1134) to 7.36 m/s (Mast AR1138). Data recovery for the month ranges from 85.0% (Mast AR1004) to 100.0% (Mast AR1138). The following pages provide a more in-depth summary of each mast.

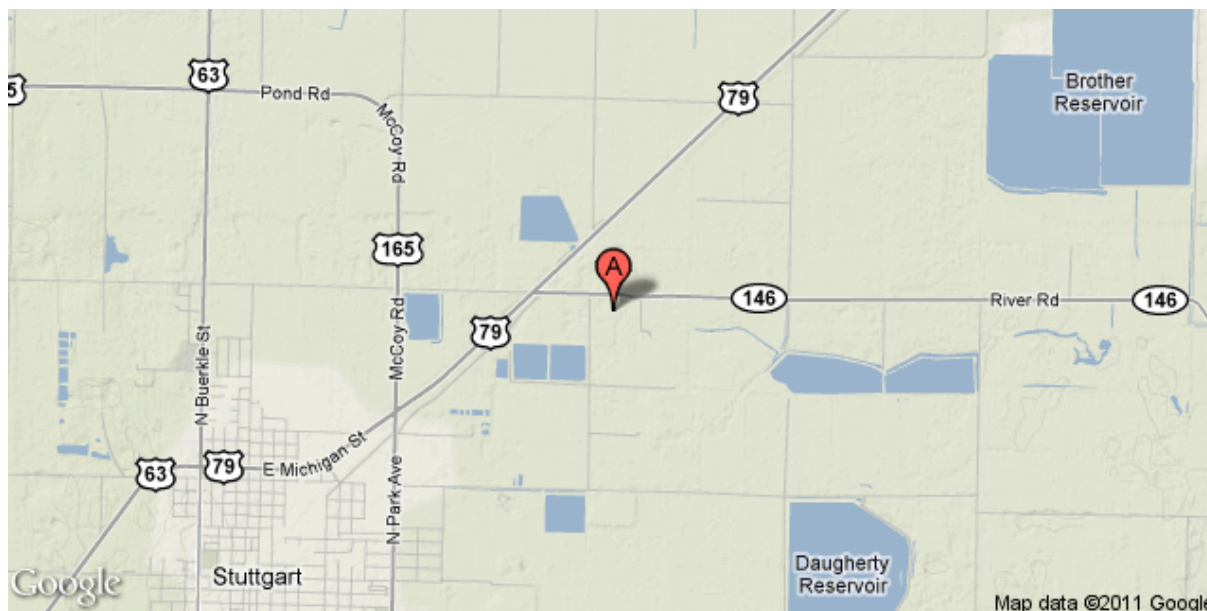
## Project Characteristics

Latitude: 34.5211      Number of Masts: 5  
 Longitude: -91.5207



Label	Mast	Period of Record
A	AR1004	2011-05-05 - 2011-05-31
B	AR1050	2011-03-23 - 2011-05-31
C	AR1121	2011-03-21 - 2011-05-31
D	AR1134	2011-04-01 - 2011-05-31
E	AR1138	2011-03-27 - 2011-06-16

## A. Mast AR1004, Arkansas Tall Tower Program Monthly Report



Elevation (m)	Latitude	Longitude
65	34.52111	-91.52027

Anemometer (m)	Wind Speed (m/s)	TI
70.8	6.73	0.12
60.8	6.27	0.14
50.8	5.74	0.16

Summary Statistics	
Wind Power Density (W/m <sup>2</sup> )	253.2
70.8 m / 60.8 m Shear	0.453
Mean Temperature (°C)	22.0
80 m Projected Wind Speed (m/s)	7.11
Data Recovery (%)	85.0

## Sensor Status

### Wind Speed Sensors

Ch 1 (70.8 m) : Operational  
 Ch 2 (70.8 m) : Operational  
 Ch 3 (60.8 m) : Operational  
 Ch 4 (60.8 m) : Operational  
 Ch 5 (50.8 m) : Operational  
 Ch 6 (50.8 m) : Operational

### Wind Direction Sensors

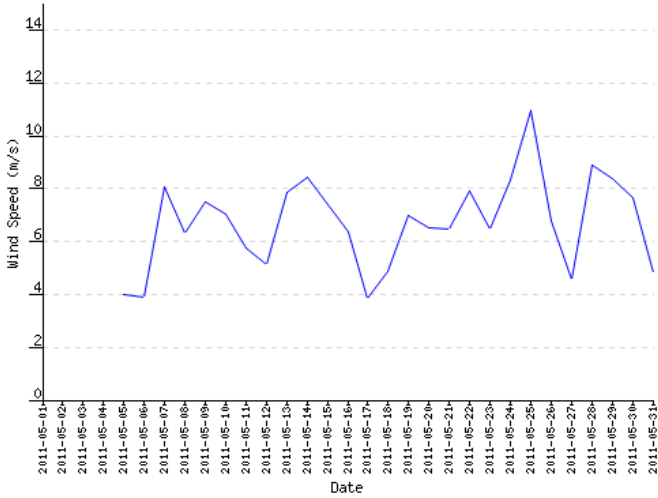
Ch 7 (70.8 m) : Operational  
 Ch 8 (60.8 m) : Operational  
 Ch 9 (50.8 m) : Operational

### Other

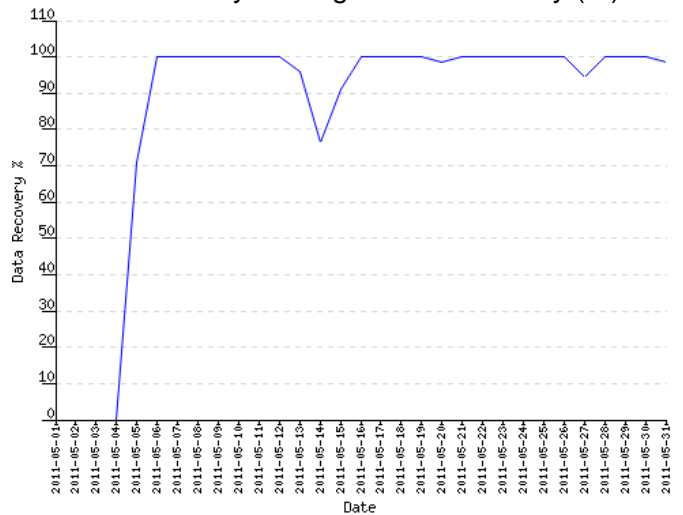
Ch 10 (70.0 m TEMP) : Operational  
 Ch 11 (50.0 m TEMP) : Operational

# Wind Speed Graphics

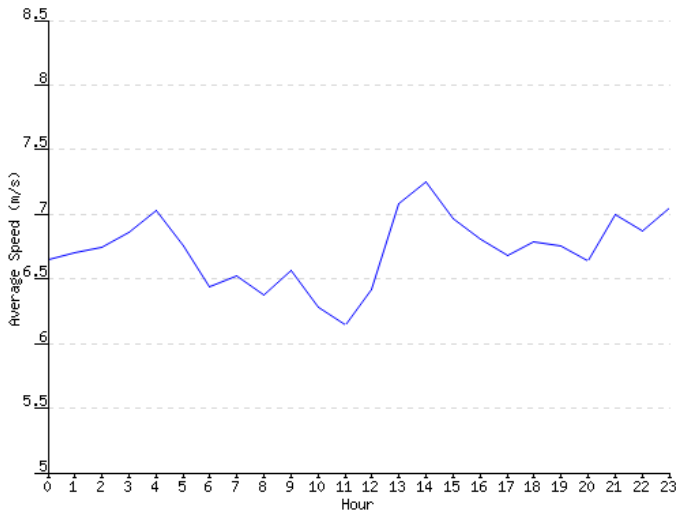
70.8 m Daily Average Wind Speeds



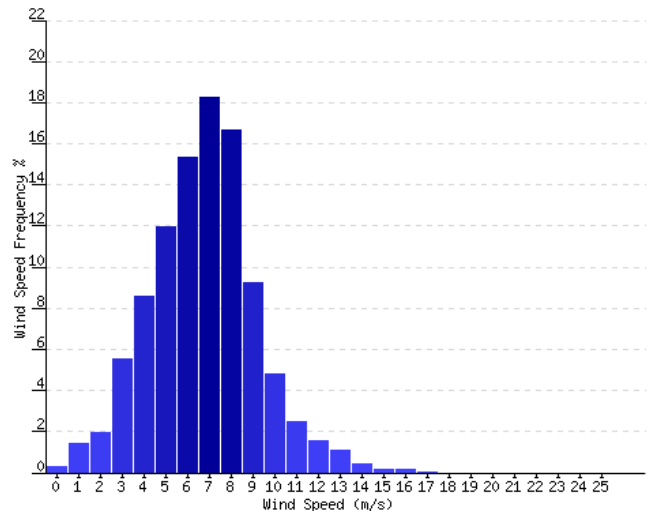
70.8 m Daily Average Data Recovery (%)



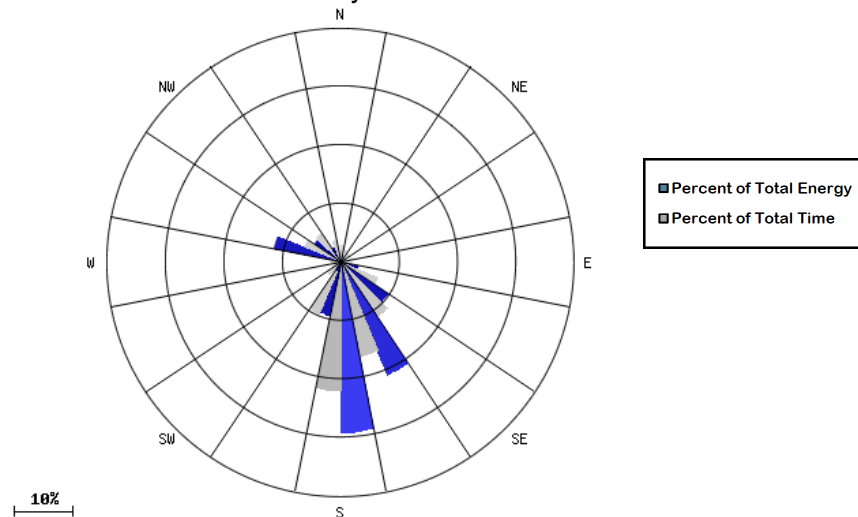
70.8 m Hourly Average Wind Speed



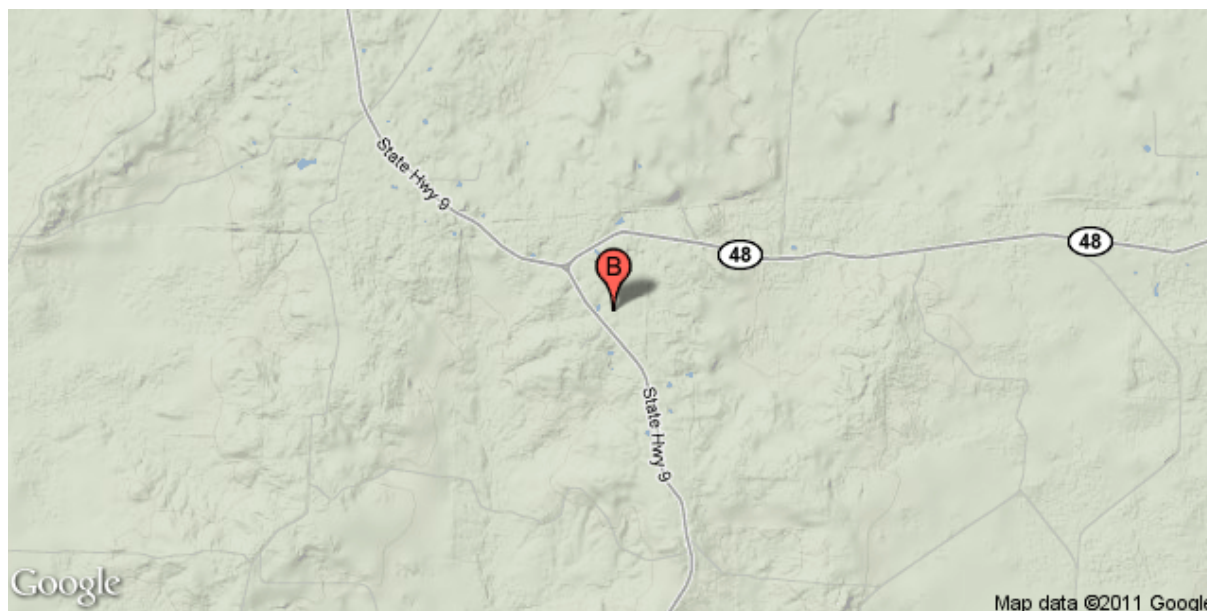
70.8 m Wind Speed Frequency Distribution



70.8 m Monthly Wind Rose



## B. Mast AR1050, Arkansas Tall Tower Program Monthly Report



Elevation (m)	Latitude	Longitude
144	34.06752	-92.63160

Anemometer (m)	Wind Speed (m/s)	TI
95.8	7.02	0.12
75.8	6.36	0.13
60.8	5.72	0.15

Summary Statistics	
Wind Power Density (W/m <sup>2</sup> )	288.6
95.8 m / 75.8 m Shear	0.416
Mean Temperature (°C)	20.4
80 m Projected Wind Speed (m/s)	6.51
Data Recovery (%)	99.6

## Sensor Status

### Wind Speed Sensors

Ch 1 (95.8 m) : Operational  
 Ch 2 (95.8 m) : Operational  
 Ch 3 (75.8 m) : Operational  
 Ch 4 (75.8 m) : Operational  
 Ch 5 (60.8 m) : Operational  
 Ch 6 (60.8 m) : Operational

### Wind Direction Sensors

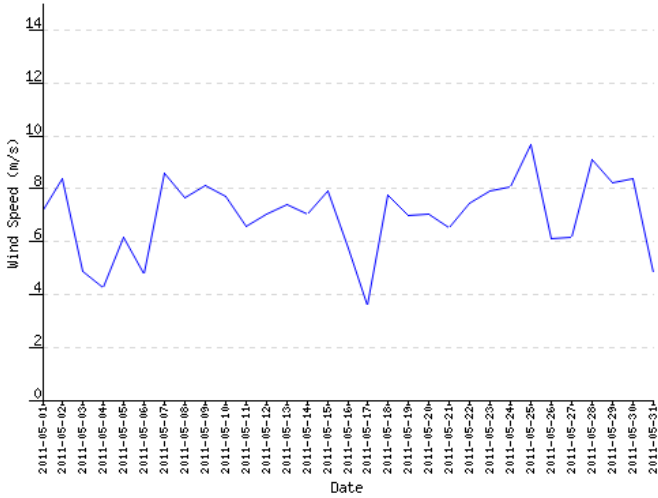
Ch 7 (95.8 m) : Operational  
 Ch 8 (75.8 m) : Operational  
 Ch 9 (60.8 m) : Operational

### Other

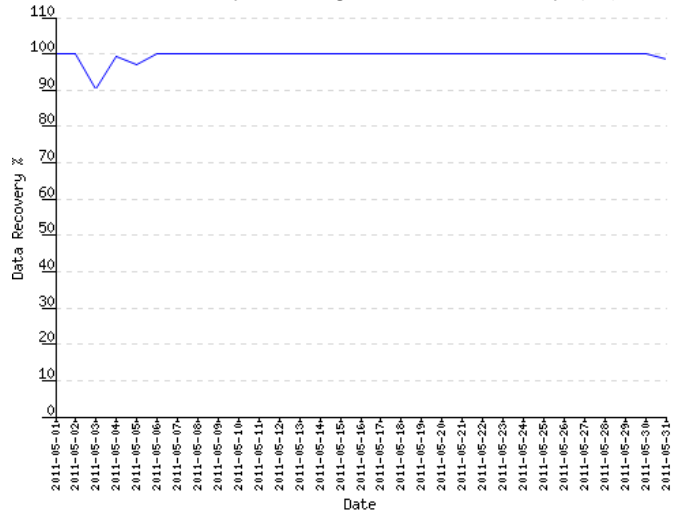
Ch 10 (95.0 m TEMP) : Operational  
 Ch 11 (60.0 m TEMP) : Operational

# Wind Speed Graphics

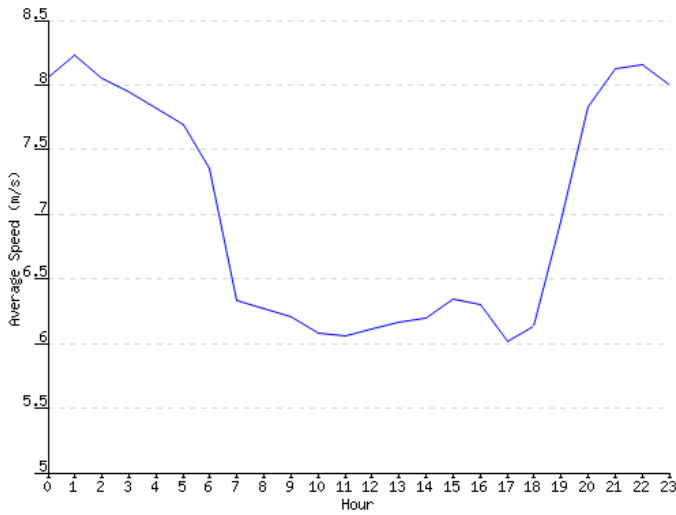
95.8 m Daily Average Wind Speeds



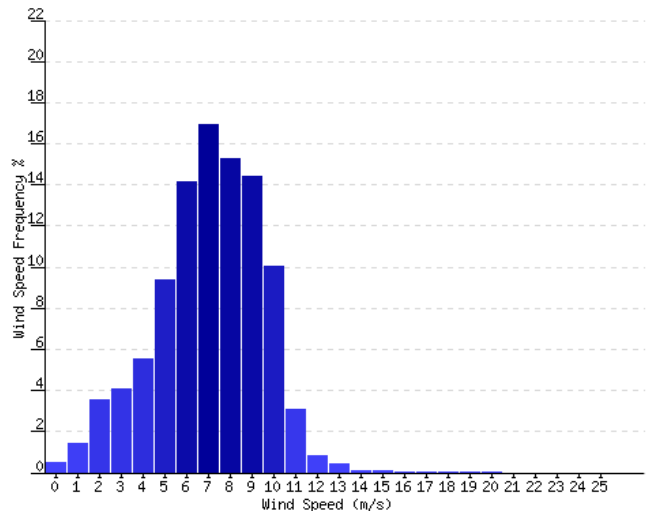
95.8 m Daily Average Data Recovery (%)



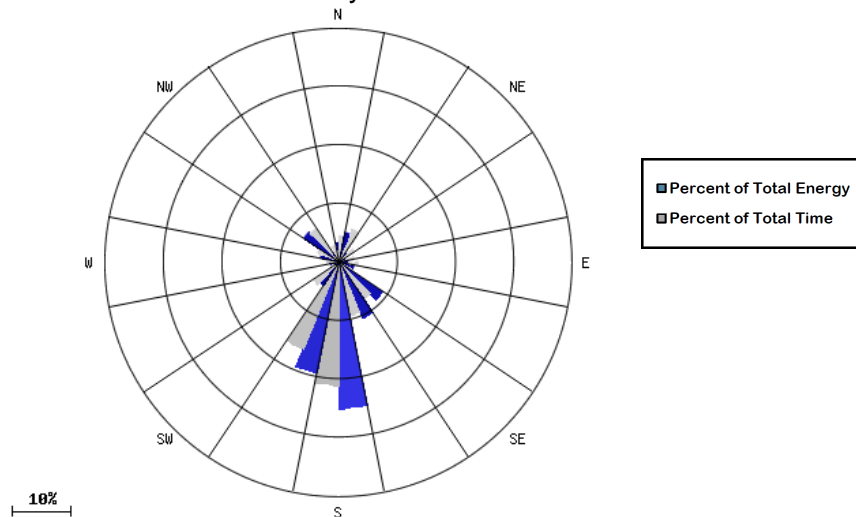
95.8 m Hourly Average Wind Speed



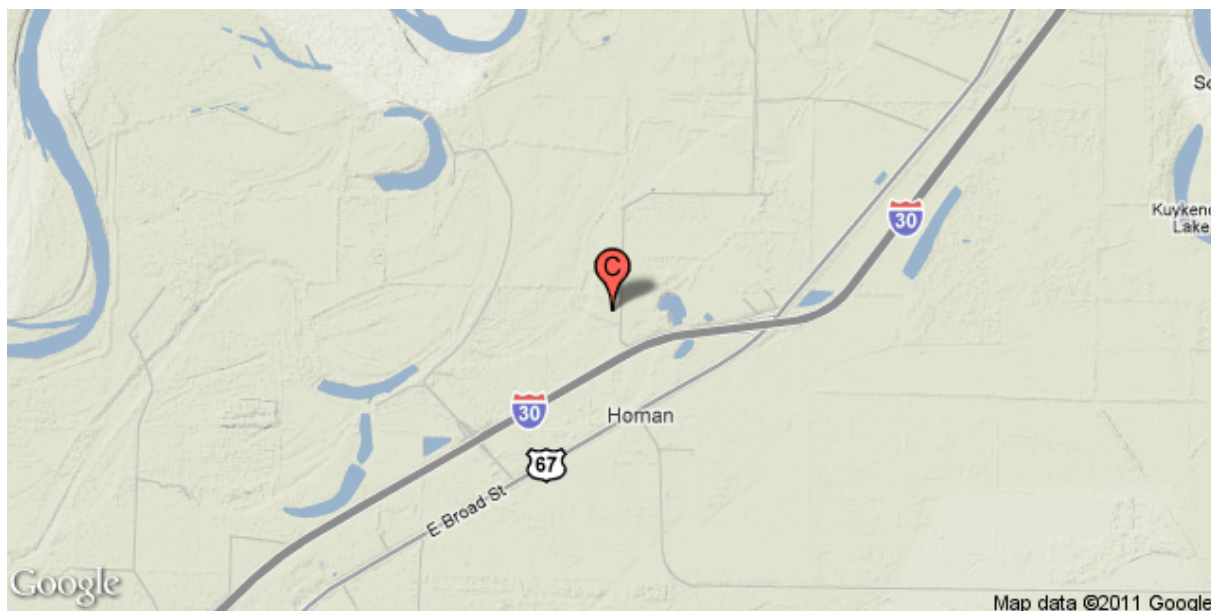
95.8 m Wind Speed Frequency Distribution



95.8 m Monthly Wind Rose



# C. Mast AR1121, Arkansas Tall Tower Program Monthly Report



Elevation (m)	Latitude	Longitude
80	33.55066	-93.88885

Anemometer (m)	Wind Speed (m/s)	TI
85.8	6.52	0.11
60.8	5.88	0.12
35.8	5.02	0.15

Summary Statistics	
Wind Power Density (W/m <sup>2</sup> )	230.7
85.8 m / 60.8 m Shear	0.313
Mean Temperature (°C)	21.6
80 m Projected Wind Speed (m/s)	6.38
Data Recovery (%)	100.0

## Sensor Status

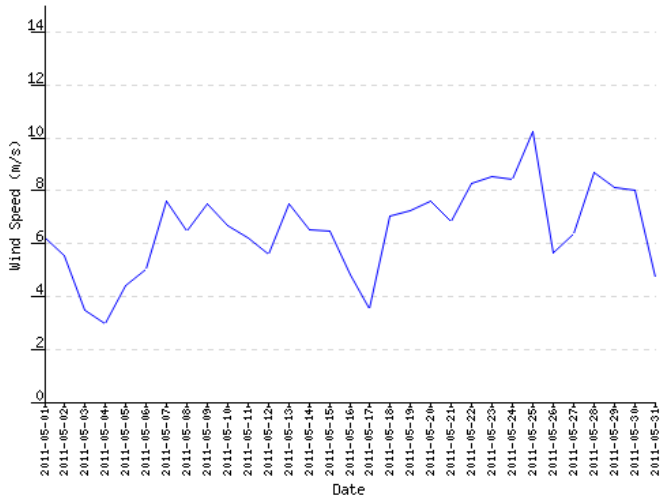
Wind Speed Sensors
Ch 1 (85.8 m) : Operational
Ch 2 (85.8 m) : Operational
Ch 3 (60.8 m) : Operational
Ch 4 (60.8 m) : Operational
Ch 5 (35.8 m) : Operational
Ch 6 (35.8 m) : Operational

Wind Direction Sensors
Ch 7 (85.8 m) : Operational
Ch 8 (60.8 m) : Operational
Ch 9 (35.8 m) : Operational

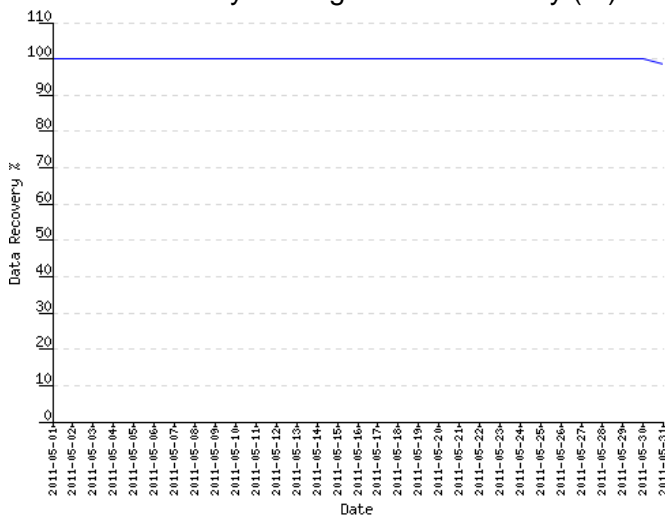
Other
Ch 10 (35.0 m TEMP) : Operational
Ch 11 (85.0 m TEMP) : Operational

# Wind Speed Graphics

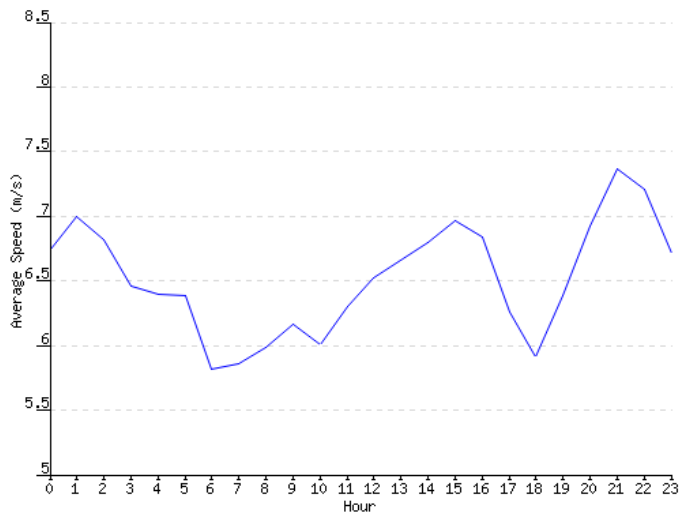
85.8 m Daily Average Wind Speeds



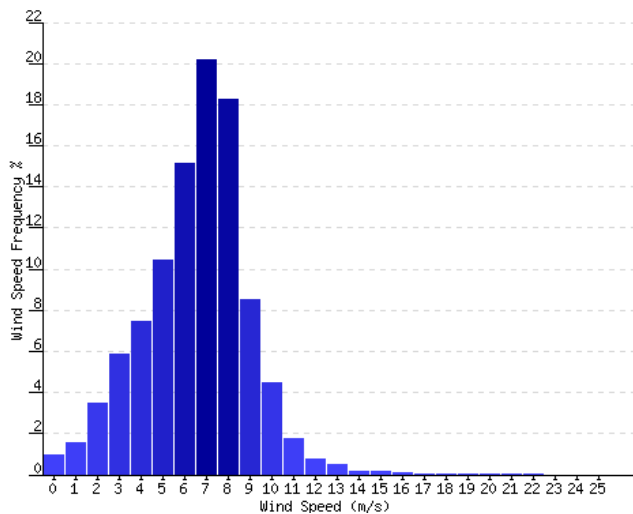
85.8 m Daily Average Data Recovery (%)



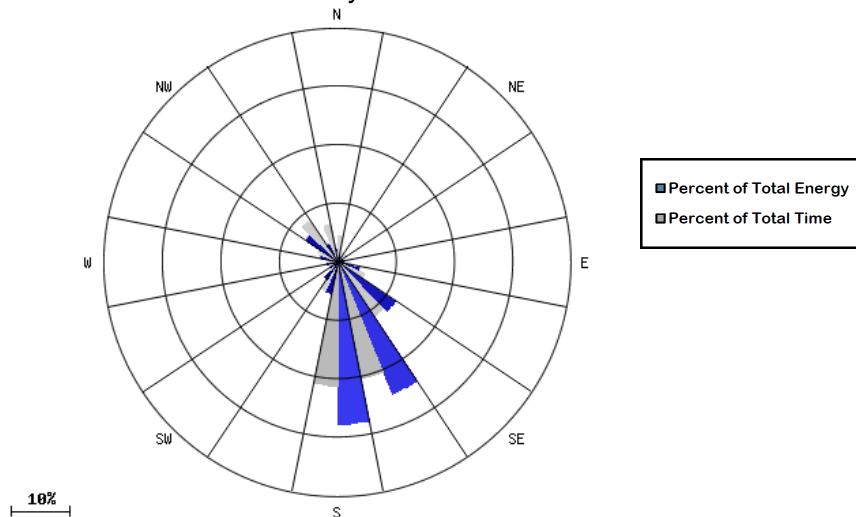
85.8 m Hourly Average Wind Speed



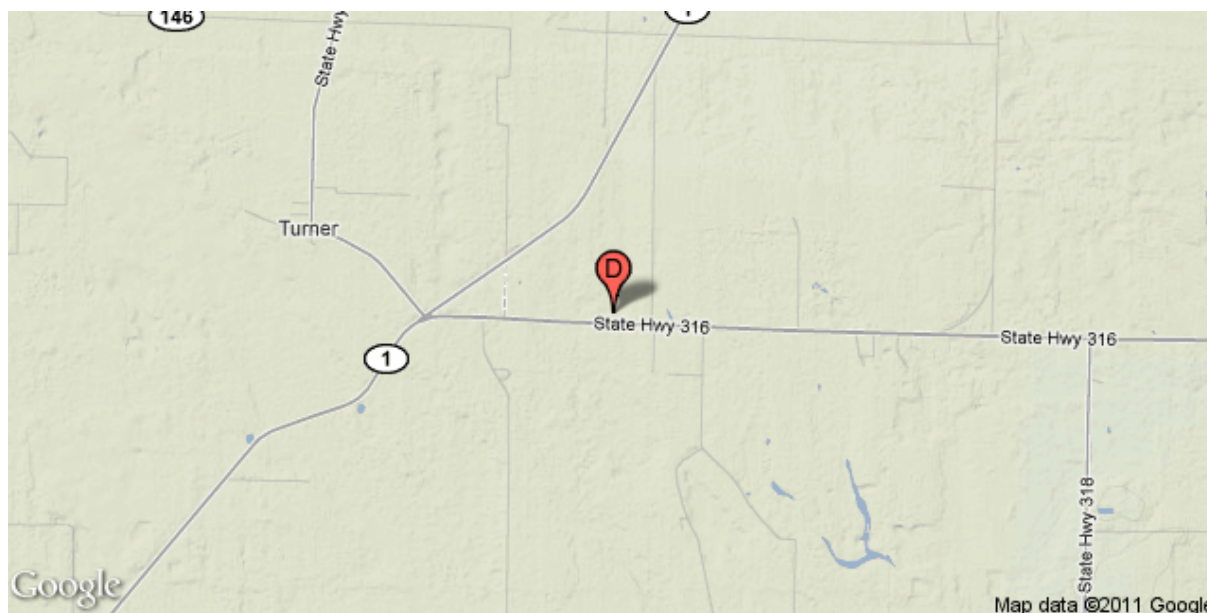
85.8 m Wind Speed Frequency Distribution



85.8 m Monthly Wind Rose



## D. Mast AR1134, Arkansas Tall Tower Program Monthly Report



Elevation (m)	Latitude	Longitude
53	34.46977	-90.99100

Anemometer (m)	Wind Speed (m/s)	TI
95.8	6.50	0.12
75.8	5.98	0.14
55.8	5.29	0.16

Summary Statistics	
Wind Power Density (W/m <sup>2</sup> )	227.2
95.8 m / 75.8 m Shear	0.378
Mean Temperature (°C)	21.1
80 m Projected Wind Speed (m/s)	6.07
Data Recovery (%)	100.0

## Sensor Status

### Wind Speed Sensors

Ch 1 (95.8 m) : Operational  
 Ch 2 (95.8 m) : Operational  
 Ch 3 (75.8 m) : Operational  
 Ch 4 (75.8 m) : Operational  
 Ch 5 (55.8 m) : Operational  
 Ch 6 (55.8 m) : Operational

### Wind Direction Sensors

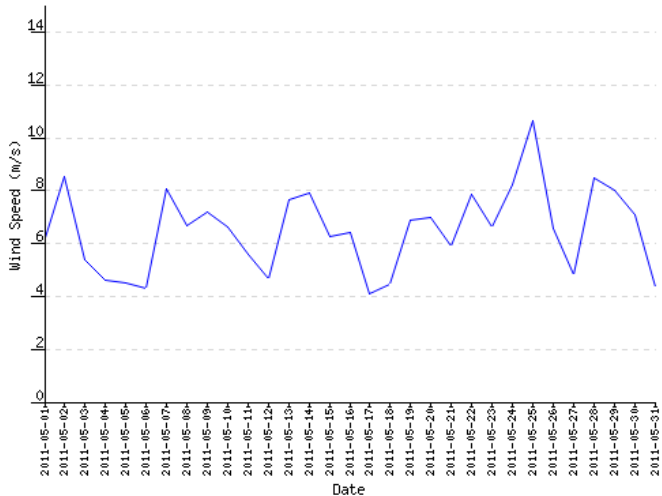
Ch 7 (95.8 m) : Operational  
 Ch 8 (75.8 m) : Operational  
 Ch 9 (55.8 m) : Operational

### Other

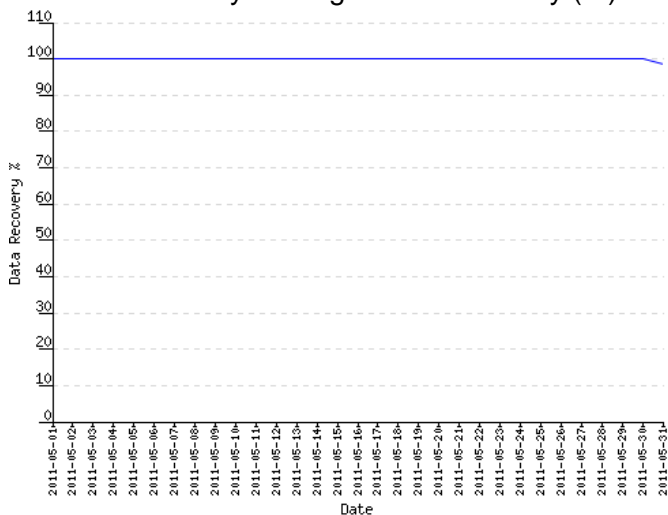
Ch 10 (95.0 m TEMP) : Operational  
 Ch 11 (55.0 m TEMP) : Operational

# Wind Speed Graphics

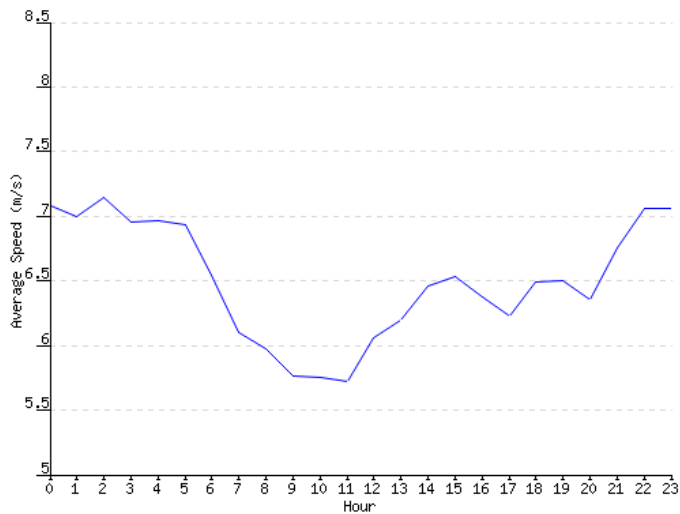
95.8 m Daily Average Wind Speeds



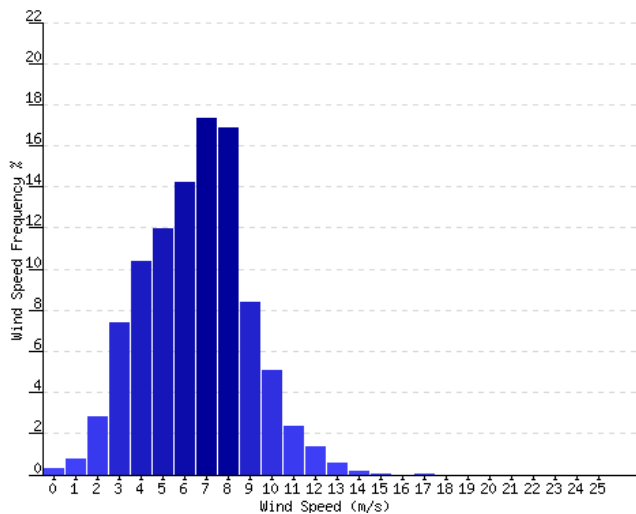
95.8 m Daily Average Data Recovery (%)



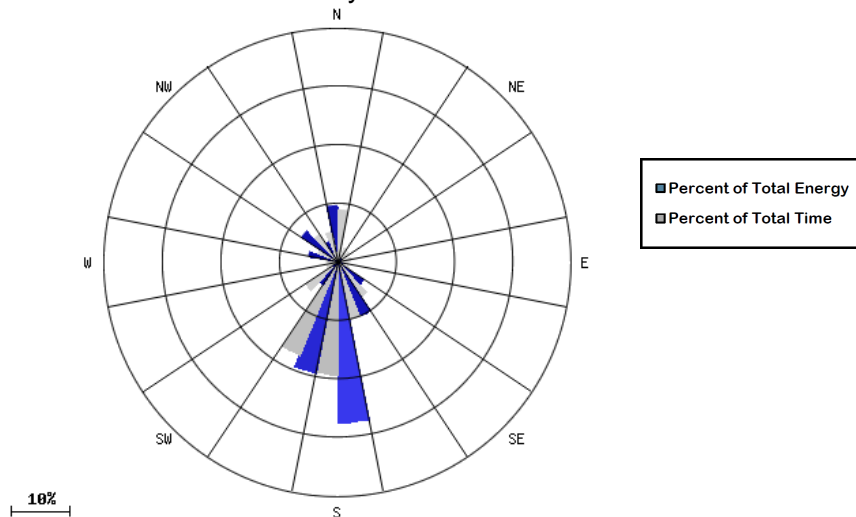
95.8 m Hourly Average Wind Speed



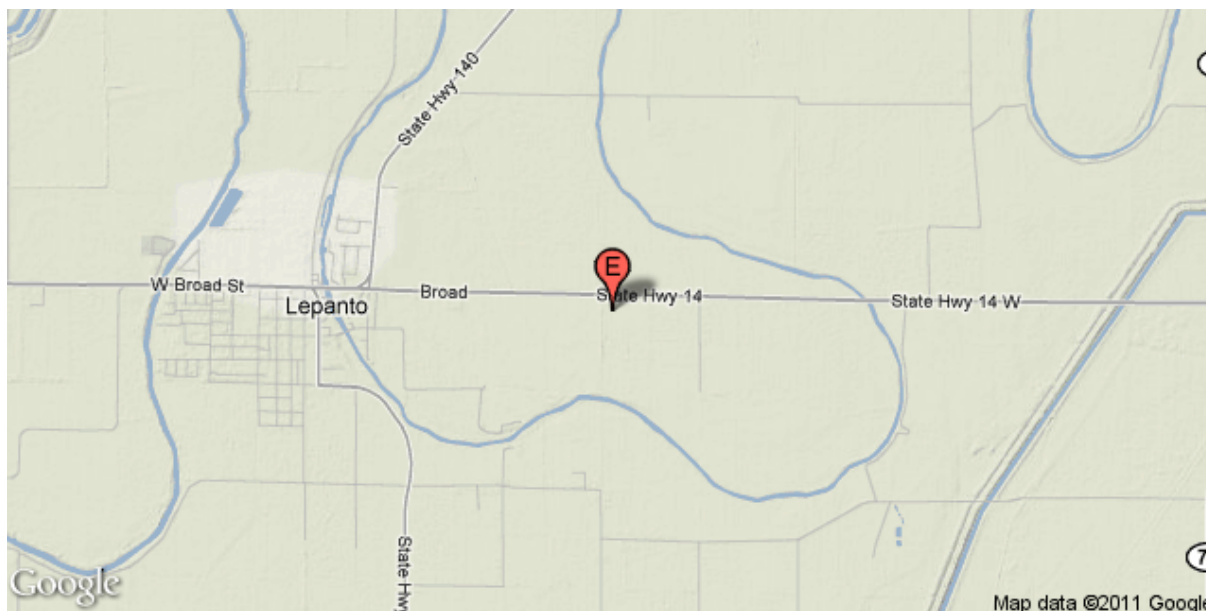
95.8 m Wind Speed Frequency Distribution



95.8 m Monthly Wind Rose



# E. Mast AR1138, Arkansas Tall Tower Program Monthly Report



Elevation (m)	Latitude	Longitude
67	35.61166	-90.30388

Anemometer (m)	Wind Speed (m/s)	TI
75.8	7.26	0.10
52.8	6.65	0.11
35.8	5.94	0.13

Summary Statistics	
Wind Power Density (W/m <sup>2</sup> )	336.5
75.8 m / 52.8 m Shear	0.254
Mean Temperature (°C)	20.0
80 m Projected Wind Speed (m/s)	7.36
Data Recovery (%)	100.0

## Sensor Status

Wind Speed Sensors
Ch 1 (75.8 m) : Operational
Ch 2 (75.8 m) : Operational
Ch 3 (52.8 m) : Operational
Ch 4 (52.8 m) : Operational
Ch 5 (35.8 m) : Operational
Ch 6 (35.8 m) : Operational

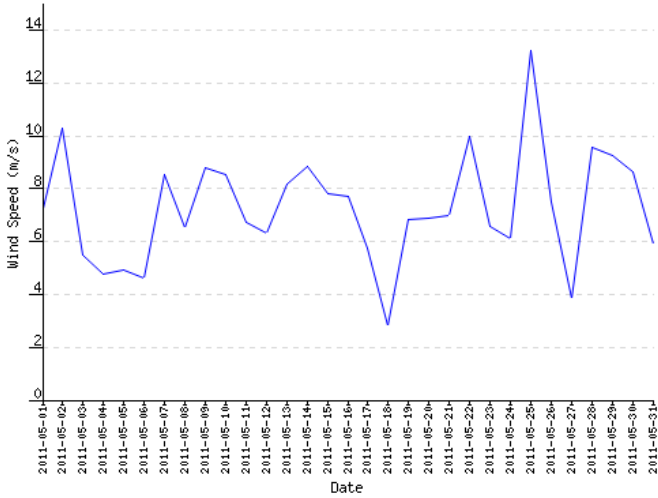
Wind Direction Sensors
Ch 7 (75.8 m) : Operational
Ch 8 (52.8 m) : Operational
Ch 9 (35.8 m) : Sensor Failure*

Other
Ch 10 (75.0 m TEMP) : Operational
Ch 11 (35.0 m TEMP) : Operational

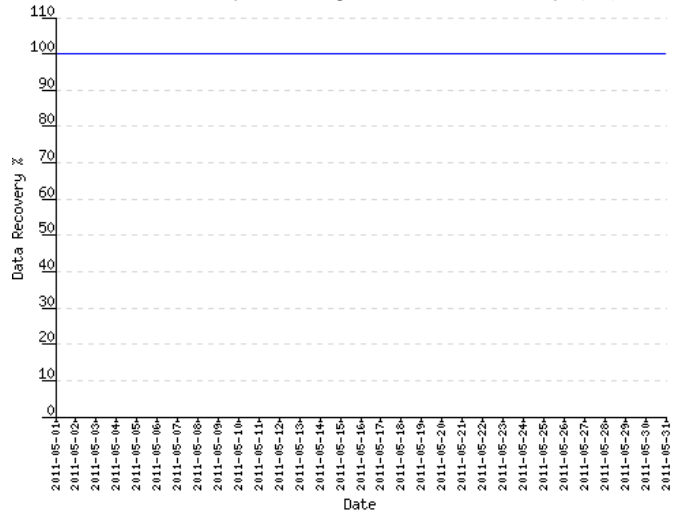
\* Vane Fails as of 4/1/2011

# Wind Speed Graphics

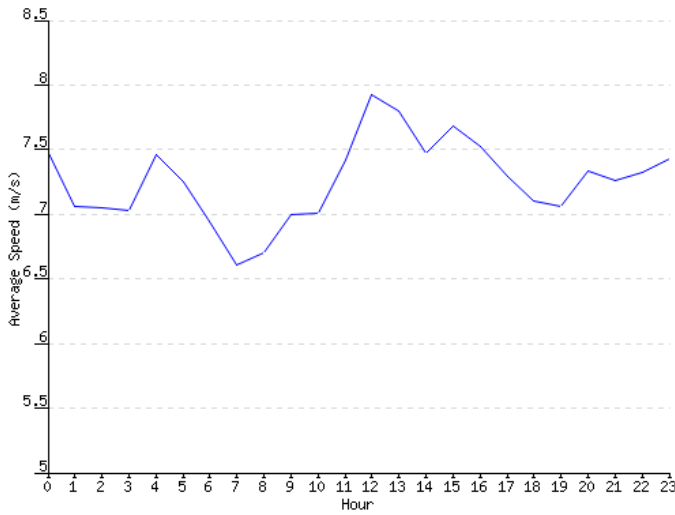
75.8 m Daily Average Wind Speeds



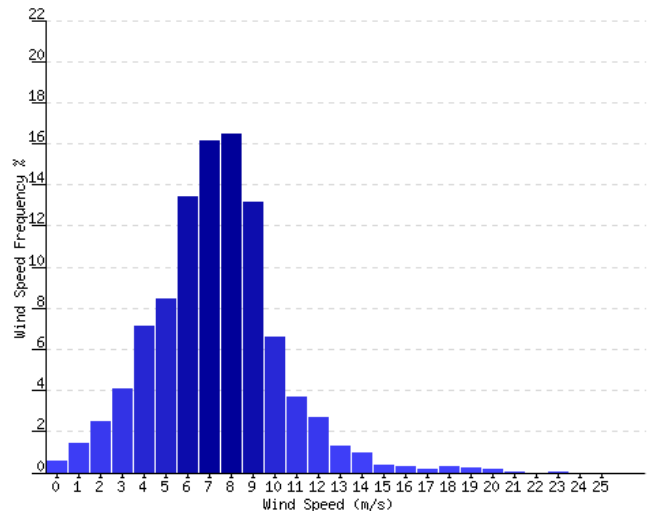
75.8 m Daily Average Data Recovery (%)



75.8 m Hourly Average Wind Speed



75.8 m Wind Speed Frequency Distribution



75.8 m Monthly Wind Rose

