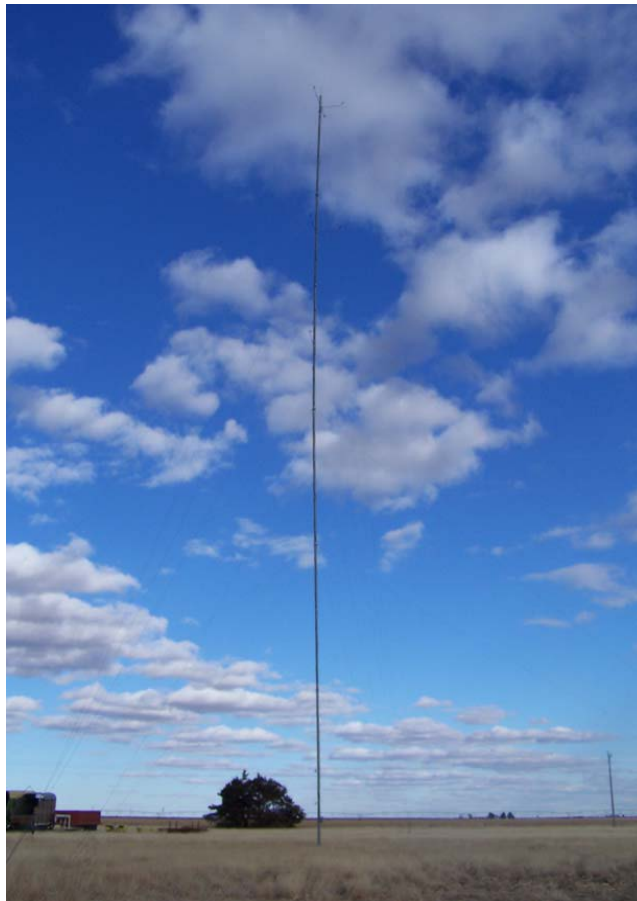




Agricultural Science Center at Clovis  
College of Agricultural, Consumer and Environmental Sciences

**New Mexico State University  
Agricultural Science Center at Clovis, NM  
Wind Monitoring Project**

**MONTHLY WIND PERFORMANCE REPORT  
December 2012**



**Site Location:** Clovis, New Mexico  
**Latitude:** 34.606075 ° N  
**Longitude:** -103.301602 ° W  
**Altitude:** 1363 meters



**New Mexico State University  
Agricultural Science Center at Clovis**

**Wind Monitoring Project  
Monthly Performance Report  
December 2012**

**Prepared for:**

New Mexico State University Agricultural Science Center at Clovis  
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**50 Meter Tower**

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## Executive Summary

This report provides the monthly wind performance summary for **December 2012** of the 50m Wind Met-Tower at the New Mexico State University Agricultural Science Center at Clovis. The site is located at the Center's facility area which has flat agricultural landscape that includes grass, crops, and bare soil. The wind met-tower is installed at coordinates 34.606075° N and -103.301602° W at an altitude of 1363 meters.

Wind speed and direction monitoring are conducted at three heights: 50 m, 40 m, and 30 m. The **average wind speed** for the month of **December** at the highest level (50m height) was found to be **9.05 m/s** with **average temperatures** around **4.0° C**, while the predominant **wind direction** was from the **West**.

Based on the average wind speed results, an approximation of energy production is conducted using a GE1.5 MW wind turbine for the sole purpose of estimating how much energy the site would yield if a turbine were to be installed. Any other turbine size and manufacturer could have been selected depending on preference and appropriateness. The **estimated energy production** for the month of **December** was approximately **622,420 kWh**. Power output was approximated based on the manufacturer's turbine power curve at 65 m hub height.

Graphs and figures in this report are for **31-day** periods from **December 1-31, 2012**.

## Wind Monitoring Method description

The NRG Symphonie data logger is an internet ready, ultra-low power microprocessor-controlled data logging system specifically designed for the wind energy industry. The Symphonie logger has a fixed averaging interval of 10 minutes. Each of the 12 channels' averages, standard deviations, minimum and maximum values are calculated from continuous 2 second data samples. Data intervals are calculated every 10 minutes, time stamped with the beginning time of each interval and written to the MultiMedia Card (MMC) at the top of each hour. Symphonie Data Retriever (SDR) software is then used to process raw data files stored on the computer from an MMC.

**Date of receipt of the raw data:**

December 31, 2012

**Dates of the performance of the monitoring:**

December 1-31, 2012

**Test description page(s):**

Description of wind monitoring items: The 50-m met tower has four "1900 NRG #40C Calibrated Anemometers;" at 50, 40, and 30 meters; two "1904 NRG #200P Wind Direction Vane 10K" at 50 and 40 meters, as well as one "1906-NRG #110S Temperature Sensor with Radiation Shield". Data Symphonie NRG Logger.

Mfg:	NRG Systems
Models:	Anemometers: 1900-NRG #40 Wind Direction Vane: 1904-NRG #200P Temperature Sensor: 1906-NRG #110S Data logger: Symphonie NRG Logger

Conditions of the wind monitoring items: ***Working as specified***

Monitoring dates: December 1-31, 2012

Location of Monitoring: The place is an open space of about 2 acres located approximately 200 yards to the south from the Agricultural Science Center at Clovis's main building complex. There are obstacles (buildings, trees, etc) which can affect both, wind speed or wind direction sampling.

Monitoring Plan Description: The Symphonie logger has a fixed averaging interval of 10 minutes. Each of the 12 channels' averages, standard deviations, minimum and maximum values are calculated from continuous 2 second data samples. Data intervals are calculated every 10 minutes, time stamped with the beginning time of each interval and written to the MultiMedia Card (MMC) at the top of each hour.

This wind monitoring report shall not be reproduced except in full, without written approval of New Mexico State University Agricultural Science Center at Clovis

**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Sensor Information:**

1 wind spd1 50m m/s  
 2 wind spd2 50m m/s  
 3 wind spd3 40m m/s  
 4 wind spd4 30m m/s  
 5 No SCM Installed  
 6 No SCM Installed

7 Wind Dir 1 50m  
 8 Wind Dir 2 40m  
 9 amb temp C°  
 10 No SCM Installed  
 11 No SCM Installed  
 12 No SCM Installed

**December 2012****Summary Report**

SITE 0001

NMSU ASC at Clovis

Channel	1	2	3	4			7	8	9			
Height	50 m	50 m	40 m	30 m	-----	-----	50 m	40 m	m	-----	-----	-----
Units	m/s	m/s	m/s	m/s	-----	-----	deg	deg	C°	-----	-----	-----
Intervals with Valid Data	4464	4464	4464	4464			4464	4464	4464			
Average Filtered Data	9.24	8.86	8.71	8.26			264.51	263.98	3.95			
Average for All Data	9.24	8.86	8.71	8.26			264.51	263.98	3.95			
Min Interval Average	0.4	0.4	0.4	0.4					-13.4			
Date of Min Interval	12/4/2012	12/4/2012	12/4/2012	12/4/2012					12/10/2012			
Time of Min Interval	11:30:00 AM	11:30:00 AM	11:30:00 AM	11:30:00 AM					4:10:00 AM			
Max Interval Average	27.6	25.4	26.3	26.5					22.9			
Date of Max Interval	12/14/2012	12/19/2012	12/14/2012	12/14/2012					12/1/2012			
Time of Max Interval	1:20:00 PM	10:50:00 AM	1:20:00 PM	1:20:00 PM					1:50:00 PM			
Average Interval SD	0.68	0.74	0.71	0.71			5.7	5.39	0.08			
Min Sample	0.4	0.4	0.4	0.4					-13.5			
Date of Min Sample	12/4/2012	12/4/2012	12/4/2012	12/4/2012					12/10/2012			
Time of Min Sample	8:20:00 AM	8:20:00 AM	7:50:00 AM	7:50:00 AM					4:10:00 AM			
Max Sample	32.4	32.1	33.2	31.3					23.4			
Date of Max Sample	12/14/2012	12/14/2012	12/14/2012	12/14/2012					12/1/2012			
Time of Max Sample	1:10:00 PM	12:50:00 PM	1:10:00 PM	1:10:00 PM					1:40:00 PM			
Average Interval TI	0.08	0.09	0.09	0.1								
Wind Speed Direction							W	W				

**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 1:**

wind spd1 50m m/s  
Height: 50 m  
Serial #: SN:

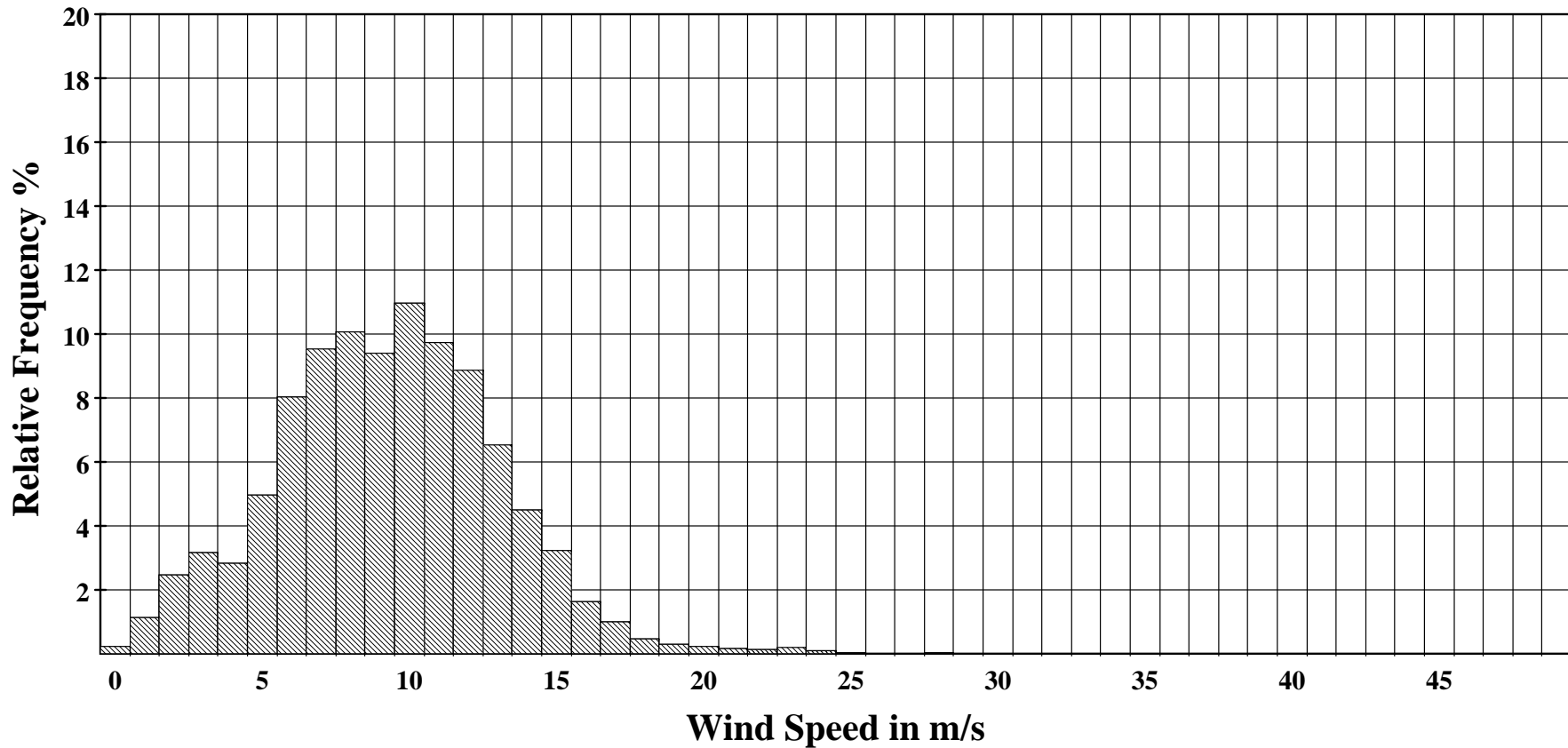
**December 2012**

**Frequency Distribution Ch 1**

SITE 0001

NMSU ASC at Clovis

**Frequency Distribution**



**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 1:**

wind spd1 50m m/s  
Height: 50 m  
Serial #: SN:

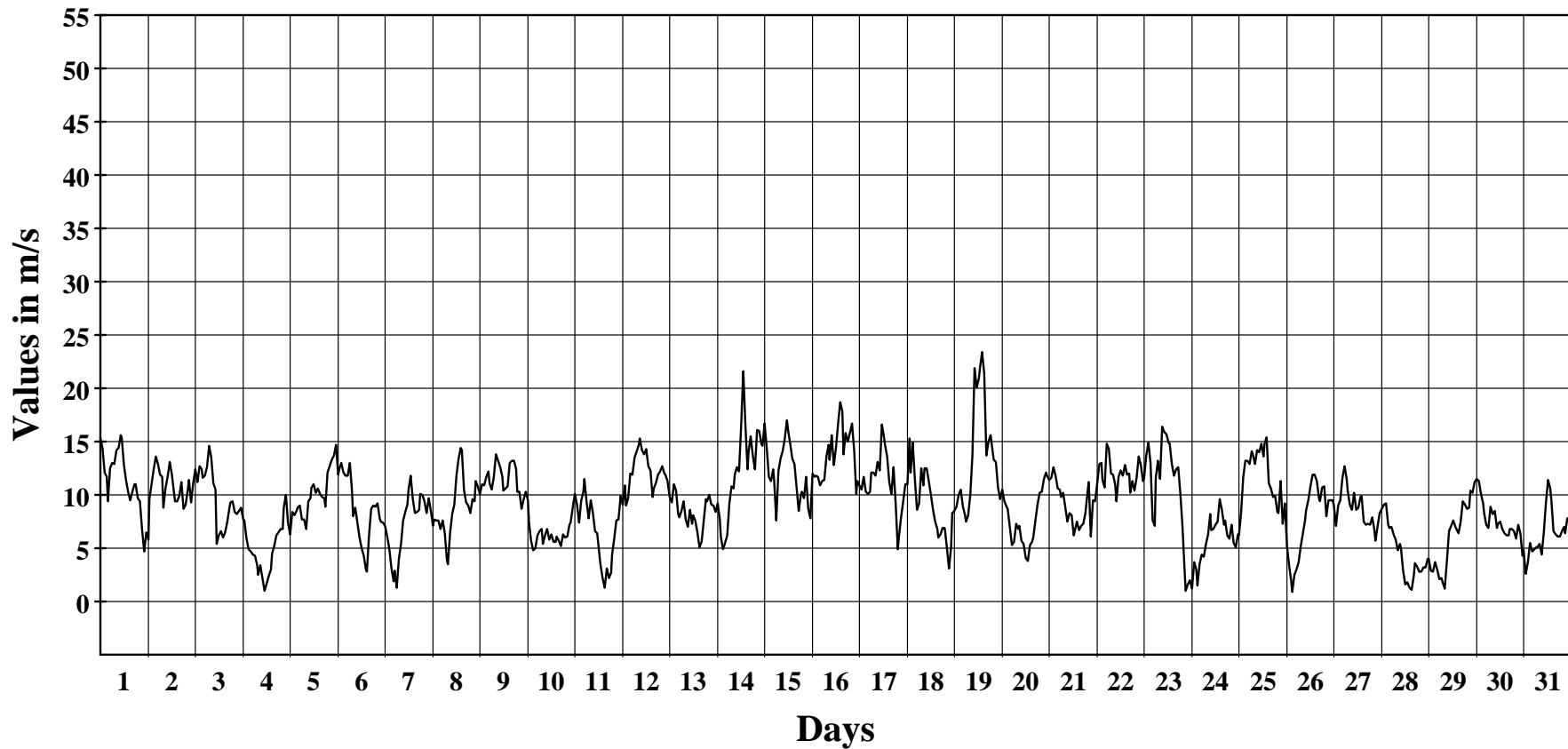
**December 2012**

**Hourly Averages Graph Ch 1**

SITE 0001

NMSU ASC at Clovis

**Average Hourly Values**



**Average Value: 9.2**



**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Sensor on channel 1:**

wind spd1 50m m/s

Height: 50 m Units: m/s

Serial #: SN:

**December 2012****Hourly Averages Table Ch 1**

SITE 0001

NMSU ASC at Clovis

Day	Hour																								AVG
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	15.3	14.4	12.1	11.7	9.4	12.5	13.0	12.9	14.2	14.4	15.6	15.4	12.9	11.4	10.3	9.5	10.3	11.0	11.0	9.7	9.4	6.8	4.7	6.5	11.4
2	5.8	9.6	11.0	12.4	13.6	12.9	11.9	11.7	8.8	10.6	11.7	13.1	11.9	10.2	9.4	9.4	9.9	11.2	8.7	9.1	10.5	11.4	9.3	11.1	10.6
3	12.4	11.2	12.7	12.4	11.6	11.8	12.6	14.6	13.5	11.1	10.5	5.4	6.2	6.6	6.0	6.5	7.5	8.8	9.3	9.4	8.4	8.2	8.5	8.8	9.7
4	7.7	7.6	5.9	4.9	4.7	4.4	4.3	3.4	2.5	3.4	2.2	1.0	1.7	2.4	3.0	4.5	5.2	6.2	6.5	6.8	6.8	8.8	10.0	7.4	5.0
5	6.3	8.4	8.1	8.5	8.8	9.0	7.7	7.7	6.8	9.4	9.7	10.7	11.0	10.2	10.6	10.1	9.8	9.7	8.9	12.1	12.7	13.3	13.7	14.7	9.9
6	11.9	12.4	13.0	12.1	11.8	11.8	13.0	10.4	8.0	8.8	7.4	6.0	5.0	4.3	3.0	2.8	6.2	8.7	9.0	8.9	9.2	7.8	7.5	7.4	8.6
7	7.1	6.1	4.9	3.1	1.9	2.9	1.3	4.0	5.4	7.6	8.4	9.1	10.5	11.8	9.6	8.3	8.4	8.6	10.1	10.0	9.4	8.3	9.7	8.5	7.3
8	7.1	7.7	7.6	7.6	6.8	7.6	6.4	3.9	3.5	6.4	8.2	9.1	11.8	13.4	14.4	14.2	10.5	9.3	9.0	8.3	9.6	9.4	11.3	10.8	8.9
9	10.1	11.0	10.9	11.7	12.2	11.1	10.5	11.7	13.8	13.2	12.6	11.7	10.4	10.6	10.8	13.0	13.2	13.2	12.4	10.3	10.3	8.7	9.6	10.3	11.4
10	9.5	7.5	5.7	4.8	5.0	6.2	6.6	6.8	5.4	6.2	6.8	5.8	6.3	5.6	5.6	6.1	5.7	5.2	6.3	6.0	6.1	7.2	7.4	8.8	6.3
11	10.1	9.1	7.4	9.5	10.3	11.5	9.4	7.8	9.5	8.3	6.6	6.4	5.4	3.5	2.2	1.3	3.1	2.2	2.7	4.4	5.9	7.6	7.7	9.9	6.7
12	9.1	10.9	9.0	9.7	12.0	11.9	13.5	14.1	14.7	15.3	14.2	13.8	14.3	12.7	12.3	9.8	10.6	11.1	11.9	12.2	12.7	12.0	11.9	11.3	12.1
13	9.8	9.3	11.0	10.4	8.3	7.9	8.5	9.4	7.7	7.0	8.6	7.3	8.1	7.6	6.5	5.1	5.6	7.6	9.6	9.4	10.0	9.1	9.0	8.4	8.4
14	9.3	7.7	6.1	4.9	5.5	6.2	9.2	10.8	10.6	11.9	12.6	12.2	16.5	21.6	16.5	12.4	14.0	15.5	13.7	12.4	16.1	16.0	14.8	14.6	12.1
15	16.7	14.4	11.7	11.3	12.4	11.4	7.6	12.2	13.4	14.1	15.3	17.0	16.1	14.8	13.4	12.9	10.7	8.5	10.0	10.3	9.7	11.7	8.7	7.8	12.2
16	12.0	11.7	11.8	11.7	10.9	11.3	11.4	13.6	14.7	13.3	15.6	12.8	14.4	16.7	18.7	17.8	13.8	15.8	15.0	15.8	16.7	14.2	10.1	11.3	13.8
17	10.9	10.5	11.7	10.3	10.1	10.3	12.1	12.1	11.8	13.1	12.3	16.6	15.4	14.7	13.6	11.2	10.1	12.6	9.2	4.9	6.1	7.9	9.4	11.0	11.2
18	11.0	15.3	12.1	14.9	11.5	8.6	9.2	12.5	10.9	12.5	12.5	11.3	10.0	8.6	7.5	6.8	6.0	6.3	6.9	6.9	5.1	3.1	5.1	8.3	9.3
19	8.5	8.9	10.0	10.5	8.9	8.1	7.5	8.1	10.0	13.7	21.9	20.1	20.9	21.9	23.4	21.4	13.7	15.0	15.6	14.0	13.3	13.1	10.7	9.6	13.7
20	10.5	9.4	8.9	8.7	7.0	5.3	5.6	7.3	6.8	7.1	5.7	5.4	4.1	3.8	5.3	5.6	6.0	7.6	9.1	10.2	10.3	11.5	12.1	11.8	7.7
21	11.4	11.6	12.6	11.8	10.6	10.5	9.8	10.2	8.9	7.5	8.3	8.1	6.2	6.6	7.5	6.7	7.1	7.3	8.3	10.3	11.2	6.1	9.5	9.4	9.1
22	11.1	12.9	13.0	11.4	10.7	14.8	14.3	12.0	11.9	10.9	9.4	11.7	12.3	11.8	12.8	11.9	12.0	10.2	11.3	10.4	11.6	13.6	12.8	11.3	11.9
23	11.6	13.7	14.9	13.0	7.6	7.1	11.6	13.2	11.5	16.4	15.9	15.7	14.9	14.8	12.9	11.8	12.4	12.6	10.1	7.0	5.0	1.0	1.6	2.0	10.8
24	1.2	3.7	3.0	1.5	3.5	4.4	4.2	5.4	6.3	8.2	6.7	6.8	7.2	7.5	9.6	8.6	7.3	7.6	6.2	5.9	7.2	5.5	5.1	6.3	5.8
25	6.2	8.3	11.6	13.2	13.2	12.9	14.1	13.8	12.9	14.2	14.0	14.8	13.6	14.8	15.4	11.1	10.6	9.8	9.9	8.4	8.3	11.3	7.3	9.2	11.6
26	5.2	3.4	1.9	0.9	2.5	3.0	3.7	5.2	6.4	7.6	8.6	9.5	10.8	11.9	11.9	11.3	9.7	9.4	10.7	10.8	8.0	9.5	9.5	9.5	7.5
27	9.0	7.1	9.0	9.5	11.6	12.7	11.5	10.4	9.1	8.6	10.2	8.6	8.8	9.8	9.9	7.5	7.3	7.3	7.3	7.9	6.7	5.7	7.0	8.3	8.8
28	8.7	9.1	9.2	7.3	6.9	7.0	6.3	5.8	4.8	5.4	5.0	2.9	1.6	1.8	1.3	1.1	2.4	3.6	3.3	2.8	2.8	3.2	3.2	4.0	4.6
29	4.0	2.9	2.8	3.7	3.0	2.1	2.2	1.8	1.2	3.8	6.6	7.1	7.6	7.0	6.8	6.4	7.5	9.4	9.1	8.7	8.8	10.4	10.2	11.2	6.0
30	11.5	11.3	10.1	9.2	8.3	7.2	6.9	8.9	8.2	8.5	6.9	7.3	7.5	6.8	6.4	6.2	6.2	6.8	6.8	6.6	5.9	7.2	6.4	4.3	7.6
31	4.8	2.6	3.7	5.5	4.7	4.9	5.1	5.1	5.4	4.4	6.5	9.3	11.4	10.6	9.5	6.6	6.3	6.1	6.1	6.6	7.0	6.4	7.8	7.7	6.4
AVG	9.2	9.3	9.1	9.0	8.6	8.7	8.7	9.3	9.0	9.8	10.2	10.1	10.1	10.2	9.9	9.0	8.7	9.2	9.2	8.9	9.1	8.9	8.8	9.1	9.2

**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 2:**

wind spd2 50m m/s  
Height: 50 m  
Serial #: SN:

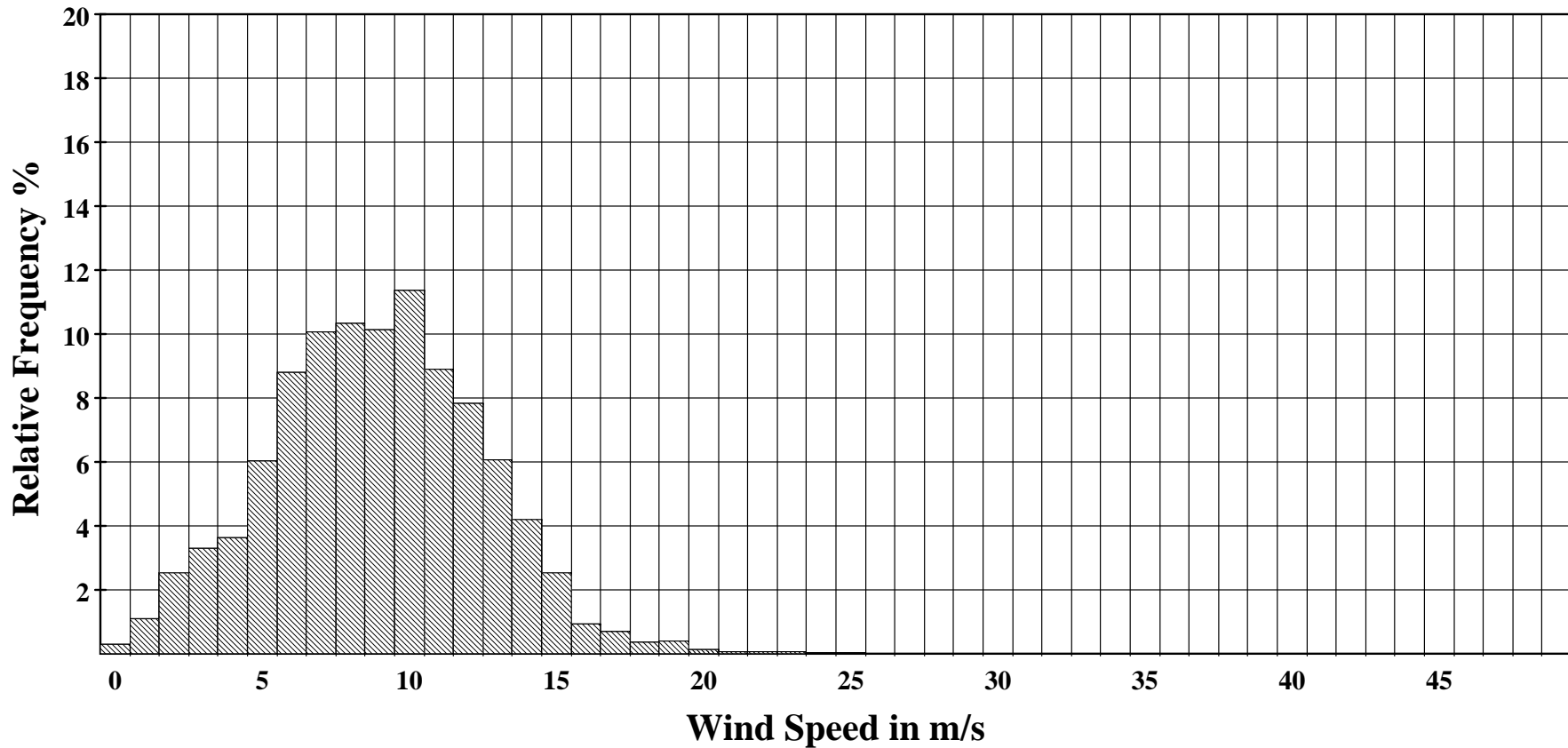
**December 2012**

**Frequency Distribution Ch 2**

SITE 0001

NMSU ASC at Clovis

**Frequency Distribution**



**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 2:**

wind spd2 50m m/s  
Height: 50 m  
Serial #: SN:

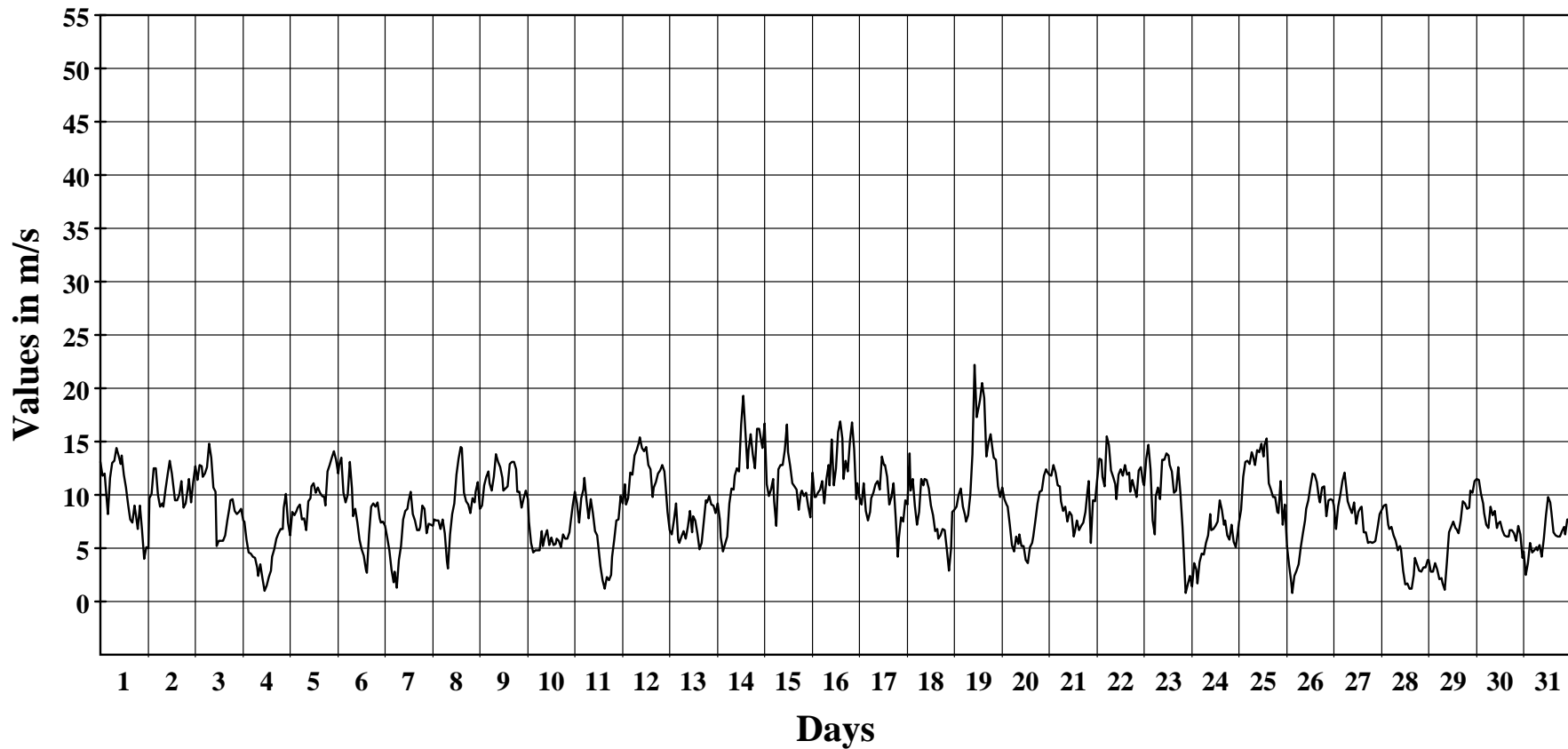
**December 2012**

**Hourly Averages Graph Ch 2**

SITE 0001

NMSU ASC at Clovis

**Average Hourly Values**



**Average Value: 8.9**

**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Sensor on channel 2:**

wind spd2 50m m/s

Height: 50 m Units: m/s

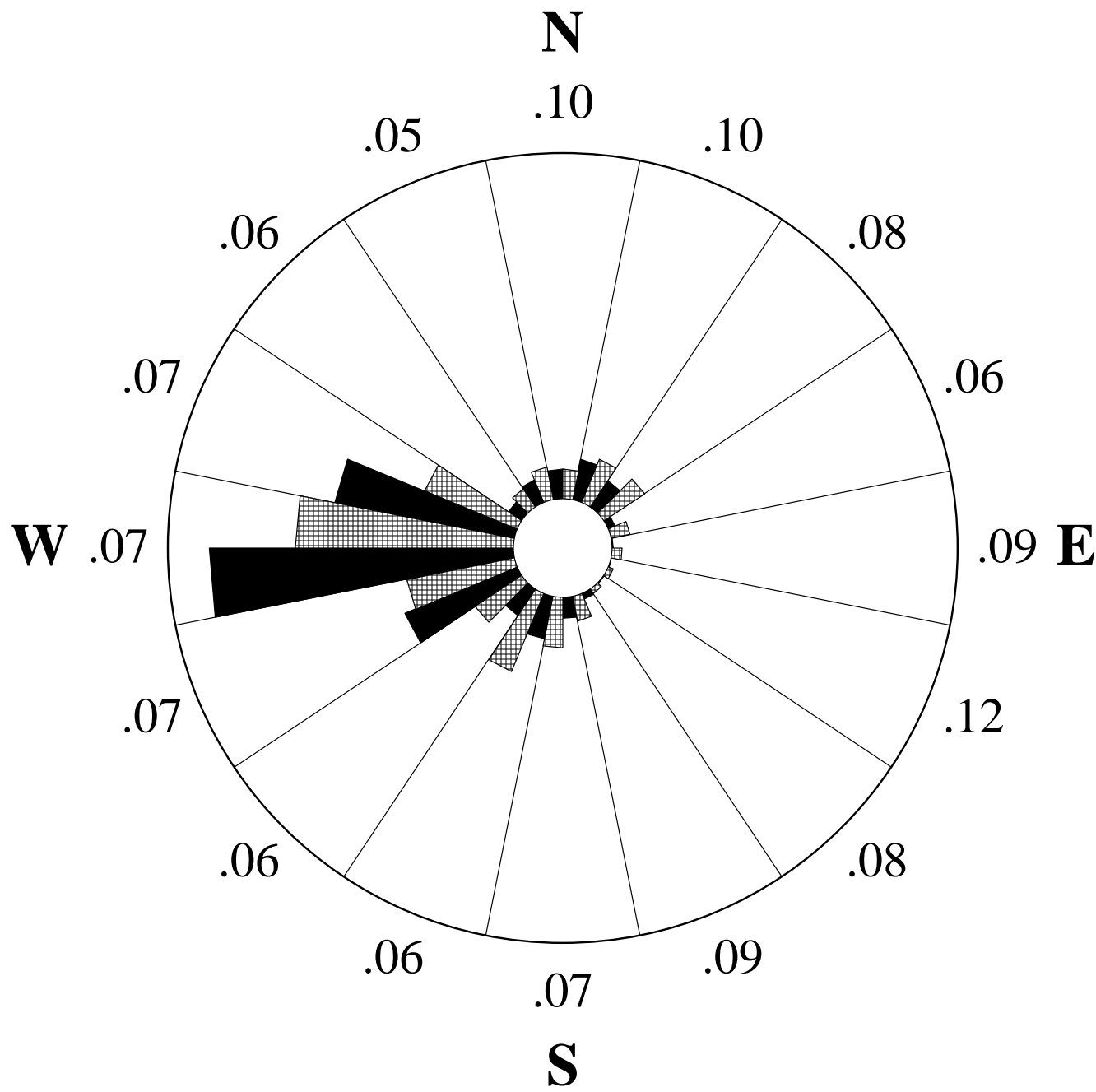
Serial #: SN:

**December 2012****Hourly Averages Table Ch 2**

SITE 0001

NMSU ASC at Clovis

Day	Hour																							AVG	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	13.1	11.8	12.0	9.5	8.2	11.6	13.0	13.2	14.4	13.7	12.9	13.7	11.9	10.7	9.1	7.7	7.4	9.0	8.3	6.8	9.0	6.7	4.0	5.1	10.1
2	5.0	9.7	10.1	12.5	12.5	10.0	8.9	9.2	8.9	10.5	11.9	13.2	12.0	10.3	9.5	9.5	10.0	11.3	8.8	9.2	10.6	11.5	9.3	11.2	10.2
3	12.7	11.4	12.8	12.7	11.7	12.0	12.6	14.8	13.5	10.7	10.3	5.2	5.7	5.7	5.7	6.2	7.6	8.8	9.5	9.6	8.5	8.2	8.4	8.7	9.7
4	7.6	7.5	5.8	4.6	4.5	4.2	4.1	3.2	2.4	3.5	2.2	1.0	1.5	2.3	2.9	4.2	4.9	5.9	6.4	6.8	6.8	8.8	10.1	7.4	4.9
5	6.2	8.4	8.1	8.5	8.8	9.1	7.7	7.8	6.7	9.4	9.7	10.8	11.1	10.3	10.7	10.2	9.9	9.8	9.0	12.2	12.8	13.5	14.1	13.3	9.9
6	12.0	12.8	13.5	10.2	9.3	10.0	13.1	10.6	8.0	8.7	7.4	5.8	4.9	4.3	3.0	2.7	6.3	8.9	9.2	8.9	9.3	7.8	7.4	7.5	8.4
7	7.1	6.0	4.8	3.0	1.8	2.8	1.3	3.9	5.2	7.7	8.5	8.7	9.4	10.3	8.2	7.6	6.7	6.7	7.0	9.0	8.7	6.4	7.3	7.2	6.5
8	7.1	7.7	7.6	7.6	6.8	7.7	6.4	3.8	3.1	6.3	8.2	9.2	11.9	13.4	14.5	14.4	10.2	9.4	9.1	8.3	9.7	9.3	10.3	11.3	8.9
9	8.7	9.0	10.9	11.7	12.2	11.1	10.4	11.7	13.8	13.1	12.6	11.6	10.4	10.6	10.8	12.9	13.1	13.1	12.4	10.3	10.3	8.8	9.7	10.4	11.2
10	9.6	7.5	5.5	4.6	4.8	4.8	4.8	6.6	5.2	6.1	6.7	5.3	6.0	5.3	5.4	5.9	5.7	5.1	6.3	5.9	5.9	6.5	7.4	9.0	6.1
11	10.3	9.2	7.4	9.7	10.5	11.6	9.5	7.8	9.6	8.3	6.6	6.3	5.2	3.3	2.0	1.2	2.3	2.0	2.5	4.2	5.8	7.6	7.7	9.9	6.7
12	9.2	11.0	9.1	9.7	12.1	11.9	13.7	14.2	14.9	15.4	14.4	14.1	14.5	12.8	12.4	9.8	10.7	11.2	12.0	12.3	12.8	12.2	11.1	8.4	12.1
13	6.7	6.3	7.6	9.2	5.8	5.5	6.1	6.6	5.9	7.0	8.5	6.5	8.0	7.6	6.4	4.9	5.5	7.5	9.5	9.3	9.9	9.1	9.0	8.3	7.4
14	9.2	7.7	6.0	4.7	5.4	6.1	9.2	10.6	10.5	11.8	12.5	12.2	16.6	19.3	15.9	12.5	14.2	15.7	13.8	12.5	16.2	16.2	15.0	14.4	12.0
15	16.7	11.0	9.9	10.5	11.5	9.4	7.1	12.4	12.8	12.8	14.2	16.6	14.0	12.7	11.1	10.8	10.5	8.6	10.2	10.4	9.9	10.2	8.9	7.9	11.2
16	12.1	9.8	9.8	10.2	10.5	11.3	9.2	11.5	12.8	10.9	15.2	10.9	12.5	15.9	16.9	15.3	11.5	13.2	12.2	15.0	16.8	14.3	9.6	11.1	12.4
17	9.8	9.1	11.1	8.5	7.6	8.4	9.7	10.2	11.0	11.3	10.5	13.6	12.8	12.8	11.7	9.1	9.8	11.1	7.9	4.2	6.0	7.9	7.5	9.5	9.6
18	9.1	13.9	10.4	11.5	9.0	7.2	8.4	11.5	10.9	11.5	11.4	10.6	9.0	8.1	6.6	6.8	5.9	6.2	6.8	6.7	4.9	2.9	5.0	8.4	8.4
19	8.6	8.9	10.0	10.6	8.9	8.1	7.5	8.1	10.0	13.8	22.2	17.3	18.3	18.9	20.5	19.1	13.6	14.9	15.7	14.1	13.5	13.3	10.8	9.8	13.2
20	10.7	9.6	9.1	8.9	7.2	5.3	4.7	6.1	5.4	6.3	5.3	5.2	3.9	3.6	5.1	5.5	6.1	7.6	9.2	10.3	10.4	11.8	12.4	12.2	7.6
21	11.9	11.8	12.8	12.1	10.9	10.8	9.4	8.5	8.9	7.5	8.4	8.1	6.1	6.5	7.6	6.7	7.1	7.4	8.4	10.4	11.3	5.5	9.5	9.4	9.0
22	11.5	13.4	13.3	11.7	10.8	15.5	14.7	12.3	11.7	11.0	9.6	11.9	12.4	11.8	12.8	11.9	12.1	10.3	11.4	10.6	9.8	12.3	12.6	11.2	12.0
23	10.9	13.4	14.7	12.4	7.6	6.3	9.9	10.7	9.6	13.3	13.3	13.9	13.7	12.8	12.2	10.2	10.4	12.6	10.2	7.0	5.1	0.8	1.6	2.4	9.8
24	1.4	3.6	3.0	1.7	3.7	4.5	4.4	5.5	6.2	8.2	6.7	6.8	7.1	7.5	9.5	8.6	7.2	7.6	6.2	5.8	7.2	5.6	5.1	6.6	5.8
25	7.4	8.6	11.7	13.1	13.2	12.9	14.0	13.7	12.8	14.2	14.0	14.8	13.6	14.7	15.3	11.1	10.5	9.8	9.8	8.4	8.3	11.3	7.2	9.1	11.6
26	5.2	3.4	1.8	0.8	2.4	2.9	3.5	5.1	6.4	7.6	8.7	9.5	10.8	12.0	11.9	11.3	9.7	9.3	10.7	10.8	8.0	9.5	9.6	9.5	7.5
27	9.0	6.8	8.9	10.0	11.3	12.1	10.3	9.4	8.8	8.3	9.3	7.3	8.4	8.8	8.9	6.5	6.5	5.5	5.6	5.5	5.6	5.7	6.9	8.2	8.1
28	8.6	9.0	9.1	7.2	6.8	7.0	6.2	5.7	4.8	5.2	4.9	2.9	1.6	1.7	1.2	1.2	2.5	4.1	3.5	2.9	2.8	3.2	3.2	3.9	4.5
29	3.9	2.8	2.8	3.6	3.0	2.1	2.2	1.7	1.1	3.7	6.5	7.0	7.5	6.9	6.8	6.4	7.6	9.4	9.2	8.7	8.8	10.4	10.2	11.3	6.0
30	11.5	11.4	10.1	9.2	8.3	7.2	6.9	8.9	8.1	8.5	6.9	7.3	7.5	6.7	6.2	6.1	6.1	6.7	6.7	6.4	5.7	7.1	6.3	4.1	7.5
31	4.7	2.5	3.6	5.5	4.6	4.8	5.1	4.8	5.3	4.2	5.9	8.1	9.8	9.3	8.4	6.5	6.2	6.1	6.1	6.6	7.0	6.3	7.7	7.7	6.1
AVG	9.0	8.9	8.8	8.6	8.1	8.2	8.2	8.7	8.7	9.4	9.8	9.5	9.6	9.6	9.3	8.5	8.3	8.9	8.8	8.7	8.9	8.7	8.5	8.8	8.9



**December 2012**

**Wind Rose Ch 1, 7**

SITE 0001

NMSU ASC at Clovis

**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Anemometer on channel 1:**

wind spd1 50m m/s

Height: 50 m

Serial #: SN:

**Vane on channel 7:**

Wind Dir 1 50m

Height: 50 m


Serial #: SN:

Outer Numbers are Average TIs for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 40%

 Percent of Total Wind Energy

 Percent of Total Time

**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 3:**

wind spd3 40m m/s  
Height: 40 m  
Serial #: SN:

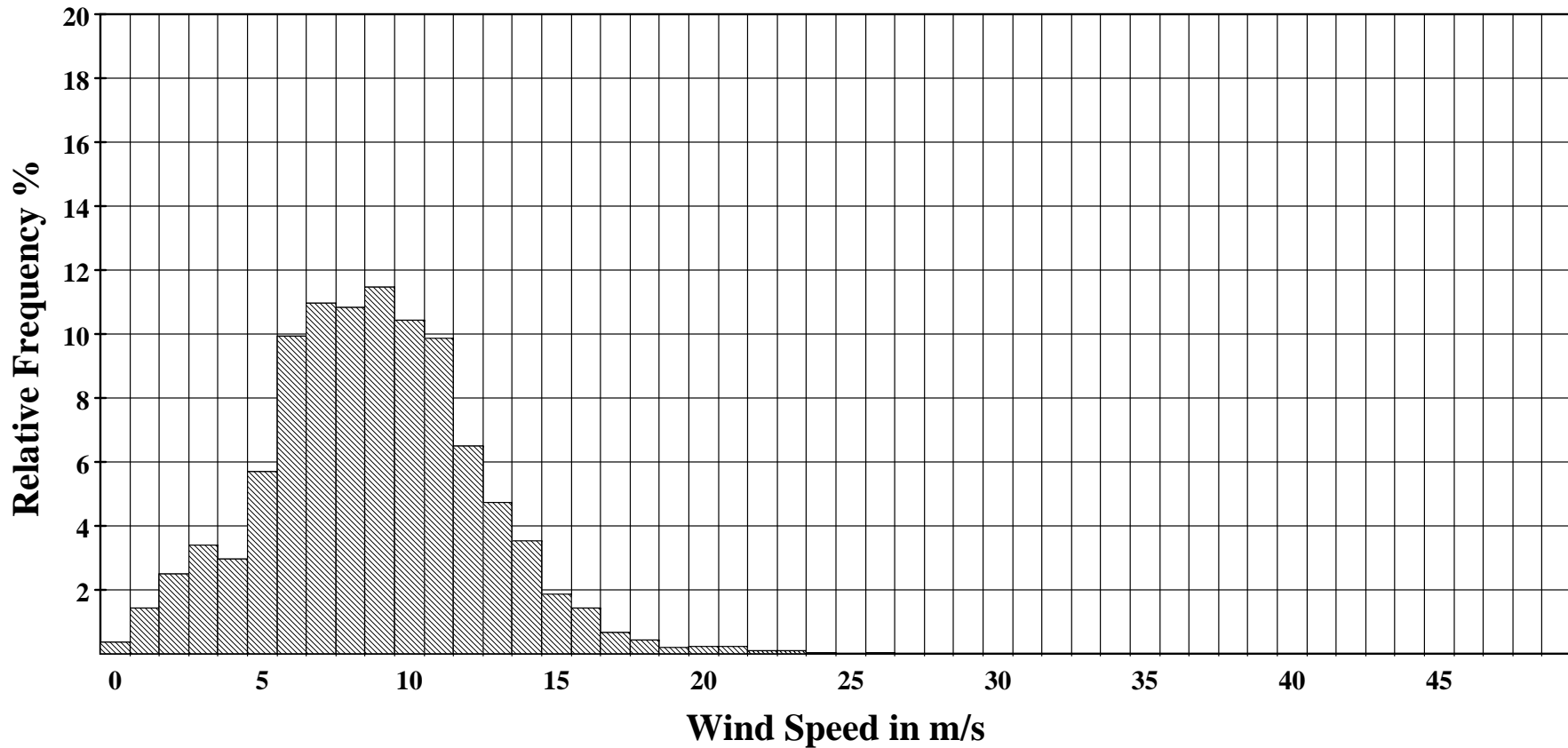
**December 2012**

**Frequency Distribution Ch 3**

SITE 0001

NMSU ASC at Clovis

**Frequency Distribution**



**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 3:**

wind spd3 40m m/s  
Height: 40 m  
Serial #: SN:

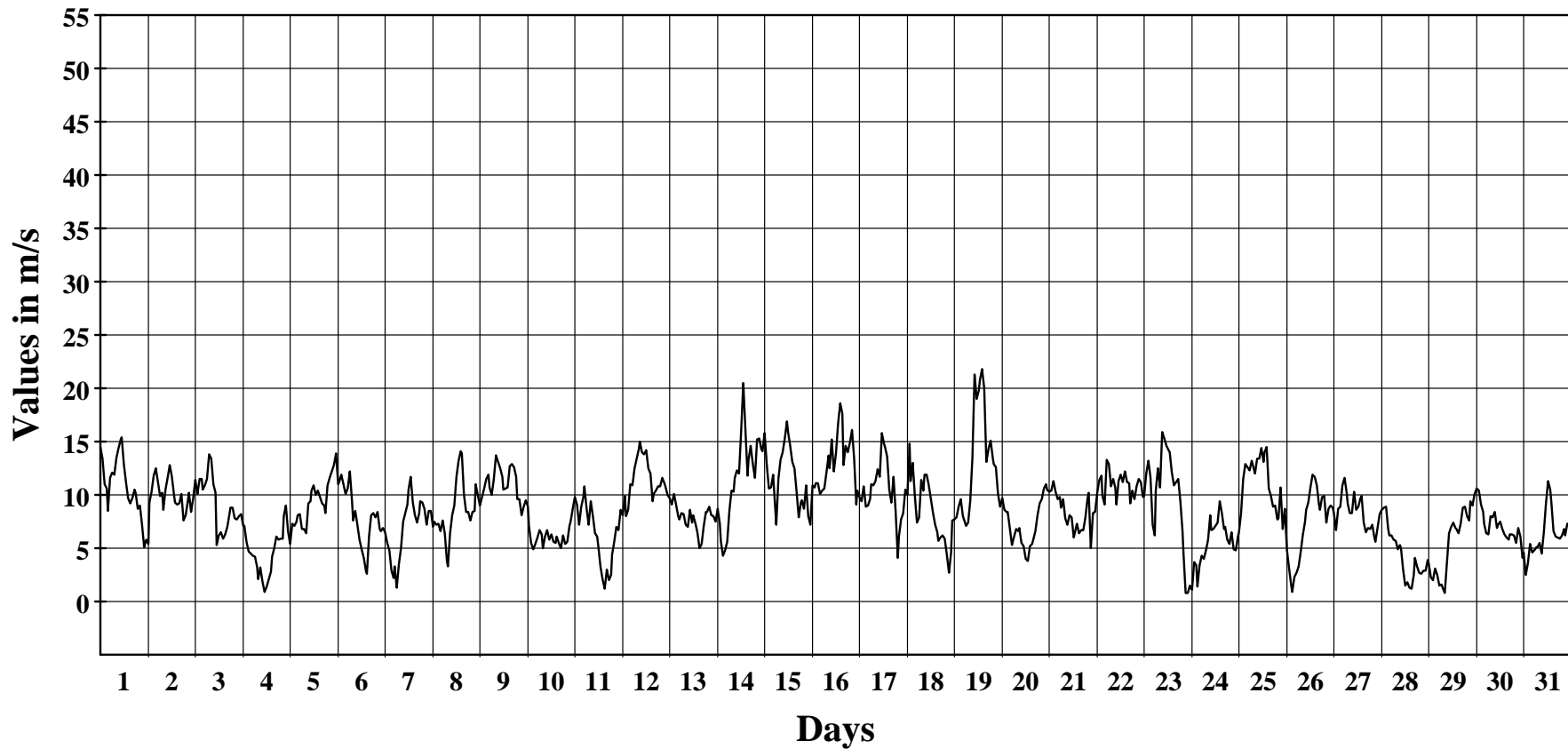
**December 2012**

**Hourly Averages Graph Ch 3**

SITE 0001

NMSU ASC at Clovis

**Average Hourly Values**



**Average Value: 8.7**

**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Sensor on channel 3:**

wind spd3 40m m/s

Height: 40 m Units: m/s

Serial #: SN:

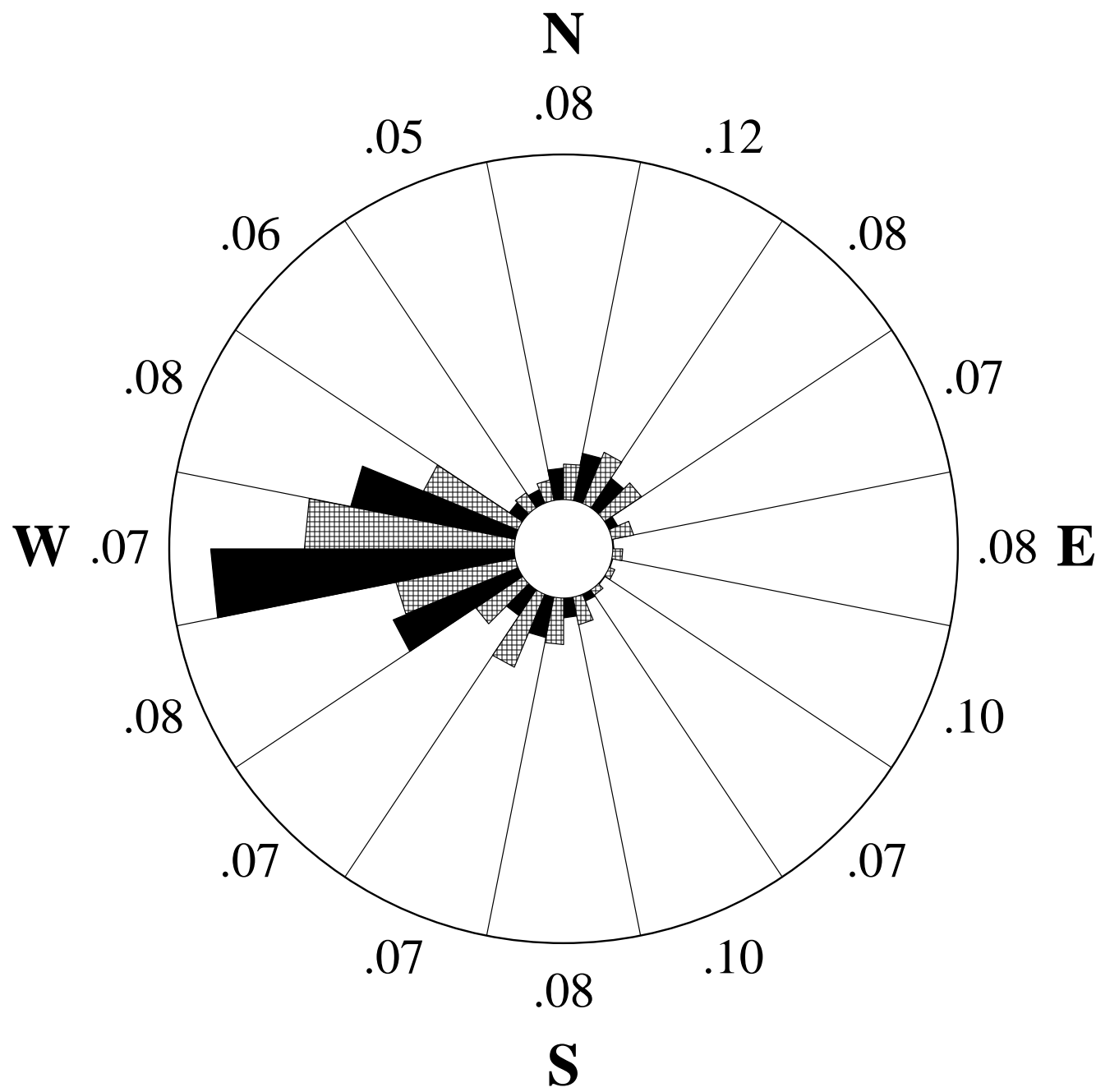
**December 2012****Hourly Averages Table Ch 3**

SITE 0001

NMSU ASC at Clovis

Day	Hour																								AVG
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	14.5	13.4	11.0	10.6	8.5	11.6	12.1	11.9	13.5	14.4	15.3	15.4	12.9	11.3	9.7	9.2	9.7	10.5	10.2	8.7	9.0	7.2	5.1	5.8	10.9
2	5.4	9.3	10.3	11.8	12.5	11.2	9.9	10.2	8.6	10.5	11.6	12.8	11.7	10.0	9.3	9.1	9.2	10.1	7.6	8.1	9.4	10.2	8.4	9.7	9.9
3	11.4	10.1	11.5	11.5	10.5	10.9	11.5	13.8	13.4	11.0	10.2	5.3	6.2	6.5	5.9	6.3	7.0	8.2	8.8	8.8	7.8	7.7	8.0	8.2	9.2
4	7.1	7.1	5.6	4.7	4.5	4.3	4.2	3.2	2.1	3.2	1.9	0.9	1.4	2.1	2.8	4.3	5.0	6.1	5.8	5.9	5.9	8.0	9.0	6.6	4.7
5	5.4	7.3	7.1	7.5	8.1	8.2	6.8	6.8	6.4	9.2	9.4	10.4	10.9	10.0	10.4	9.8	9.2	9.0	8.3	10.9	11.6	12.2	12.8	13.9	9.2
6	11.0	11.2	11.9	11.0	10.1	10.6	12.2	9.5	7.6	8.5	7.2	5.8	4.9	4.1	2.9	2.6	6.1	8.1	8.3	7.9	8.4	6.8	6.6	6.9	7.9
7	6.5	5.5	4.8	2.9	2.2	3.3	1.3	3.5	5.0	7.5	8.3	9.1	10.5	11.7	9.3	8.1	7.4	8.3	9.4	9.3	8.7	7.2	8.5	8.5	7.0
8	7.0	7.5	7.2	7.3	6.6	7.6	6.4	3.8	3.3	6.4	8.1	9.0	11.7	13.2	14.1	13.9	10.0	8.4	8.4	7.6	8.4	8.5	11.0	10.0	8.6
9	9.0	9.8	10.6	11.5	11.9	10.7	10.0	11.5	13.7	13.1	12.5	11.7	10.5	10.6	10.7	12.7	12.9	12.6	11.7	9.6	9.6	8.1	8.9	9.5	11.0
10	8.9	7.1	5.5	4.9	5.4	6.0	6.7	6.3	5.0	6.1	6.7	5.8	6.3	5.6	5.5	6.1	5.5	5.0	6.2	5.4	5.6	7.1	7.5	8.7	6.2
11	9.8	9.1	7.2	8.9	9.8	10.8	8.8	7.2	9.4	8.0	6.4	6.1	5.2	3.3	2.1	1.2	3.0	2.0	2.5	4.4	5.6	7.0	6.7	8.6	6.4
12	8.1	9.9	8.0	8.6	11.0	10.9	12.5	13.4	14.3	15.0	14.0	13.8	14.2	12.5	12.0	9.4	10.1	10.4	10.8	10.8	11.6	11.1	10.8	10.0	11.4
13	9.7	9.1	10.1	9.1	8.0	7.7	8.3	8.2	7.2	7.0	8.6	7.4	8.1	7.4	6.5	5.0	5.4	7.1	8.4	8.4	8.9	8.1	8.0	7.5	7.9
14	8.7	7.3	5.7	4.3	4.8	5.6	8.5	10.4	10.3	11.6	12.3	12.0	16.0	20.5	16.1	11.8	13.3	14.6	12.9	11.6	15.2	15.3	14.3	14.1	11.5
15	15.8	12.9	10.6	10.7	11.9	10.4	7.2	11.5	13.3	14.0	15.3	16.9	15.9	14.6	13.1	12.5	10.3	7.9	9.3	9.5	8.7	10.9	8.0	7.2	11.6
16	10.9	10.7	11.1	11.1	10.1	10.4	10.6	12.1	13.7	12.5	15.2	12.2	13.9	16.7	18.6	17.6	12.8	14.6	14.0	14.9	16.1	13.4	9.1	10.4	13.0
17	9.8	9.4	10.8	8.9	9.0	9.6	11.0	10.9	11.3	12.4	11.7	15.8	14.8	14.5	13.6	10.5	9.3	11.7	8.4	4.1	6.1	7.7	8.3	10.5	10.4
18	10.0	14.8	11.3	13.0	9.9	7.4	7.9	11.4	10.4	11.9	11.9	10.9	9.6	8.3	7.2	6.5	5.7	6.0	6.2	5.9	4.4	2.7	4.6	7.6	8.6
19	7.7	7.9	8.9	9.6	8.0	7.4	7.1	7.4	9.5	13.5	21.3	19.0	19.8	20.8	21.8	20.0	13.1	14.3	15.1	13.5	12.9	12.6	10.1	8.9	12.9
20	9.7	8.6	8.4	8.4	6.9	5.3	6.1	6.8	6.6	6.9	5.5	5.2	4.0	3.8	5.2	5.4	5.8	6.6	8.1	9.2	9.6	10.6	11.0	10.5	7.3
21	10.3	10.4	11.3	10.3	9.6	9.8	8.8	9.6	7.8	7.2	8.1	7.9	6.0	6.4	7.3	6.4	6.7	6.7	7.9	9.7	10.2	5.0	8.3	8.4	8.3
22	10.3	11.4	11.8	9.9	9.1	13.3	12.9	10.8	11.5	10.7	9.1	11.3	11.9	11.2	12.2	11.2	11.1	9.2	10.4	9.6	10.8	11.5	11.2	9.8	10.9
23	9.9	12.0	13.2	11.6	7.2	6.2	10.4	12.5	10.7	15.9	15.3	14.6	14.2	14.0	12.1	10.9	11.2	11.5	9.4	6.6	4.5	0.8	0.8	1.5	9.9
24	1.1	3.7	3.4	1.4	3.4	4.3	4.0	4.8	5.8	8.1	6.7	6.8	7.1	7.4	9.4	8.3	6.8	7.0	5.8	5.4	6.5	4.9	4.8	6.1	5.5
25	6.5	8.3	11.5	12.9	12.6	12.3	13.2	12.8	12.0	13.4	13.4	14.4	13.1	14.0	14.5	10.6	9.9	8.9	9.0	7.7	7.8	10.7	6.8	8.7	11.0
26	4.8	3.1	1.5	0.9	2.3	2.7	3.3	4.7	6.3	7.5	8.6	9.3	10.7	11.9	11.7	10.9	9.1	8.6	9.8	9.9	7.4	8.7	9.0	8.8	7.1
27	8.3	6.7	8.7	8.9	10.9	11.6	10.2	9.2	8.3	8.3	10.3	8.6	8.9	9.7	9.9	7.4	6.5	6.9	6.8	7.2	6.0	5.6	6.9	8.2	8.3
28	8.6	8.8	8.9	6.8	6.2	6.2	5.8	5.7	4.9	5.3	5.0	3.0	1.5	1.8	1.3	1.2	2.5	4.1	3.3	2.7	2.6	2.9	2.9	3.9	4.4
29	3.6	2.3	2.0	3.1	2.5	1.5	1.6	1.3	0.8	3.6	6.4	7.0	7.4	6.9	6.8	6.4	7.3	8.8	8.9	8.0	7.6	9.4	9.0	10.1	5.5
30	10.6	10.4	9.1	8.4	7.3	6.4	6.3	8.0	7.9	8.4	6.9	7.2	7.5	6.8	6.3	6.0	5.8	6.3	6.3	6.2	5.5	6.9	6.1	4.1	7.1
31	4.6	2.5	3.6	5.4	4.6	4.8	5.1	5.1	5.5	4.5	6.5	9.2	11.3	10.5	9.3	6.6	6.1	6.0	5.9	6.2	6.8	6.2	7.3	7.3	6.3
AVG	8.5	8.6	8.5	8.3	7.9	8.0	8.1	8.5	8.6	9.5	10.0	9.8	9.9	9.9	9.6	8.6	8.2	8.6	8.5	8.2	8.4	8.2	8.1	8.4	8.7





**December 2012**

**Wind Rose Ch 3, 8**

SITE 0001

NMSU ASC at Clovis

**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Anemometer on channel 3:**

wind spd3 40m m/s

Height: 40 m

Serial #: SN:

**Vane on channel 8:**

Wind Dir 2 40m

Height: 40 m


Serial #: SN:

Outer Numbers are Average TIs for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 40%

 Percent of Total Wind Energy

 Percent of Total Time

**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 4:**

wind spd4 30m m/s  
Height: 30 m  
Serial #: SN:

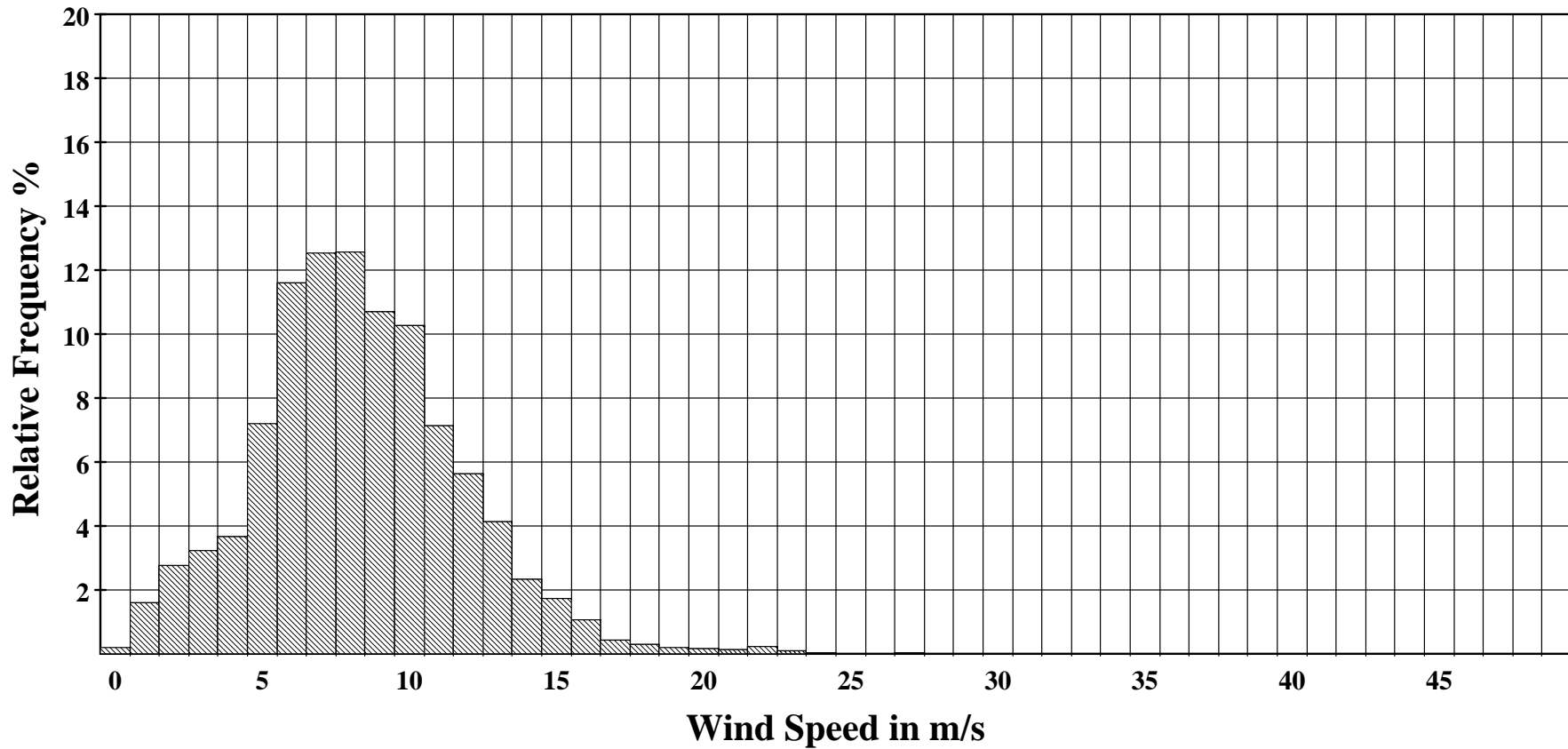
**December 2012**

**Frequency Distribution Ch 4**

SITE 0001

NMSU ASC at Clovis

**Frequency Distribution**



**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 4:**

wind spd4 30m m/s  
Height: 30 m  
Serial #: SN:

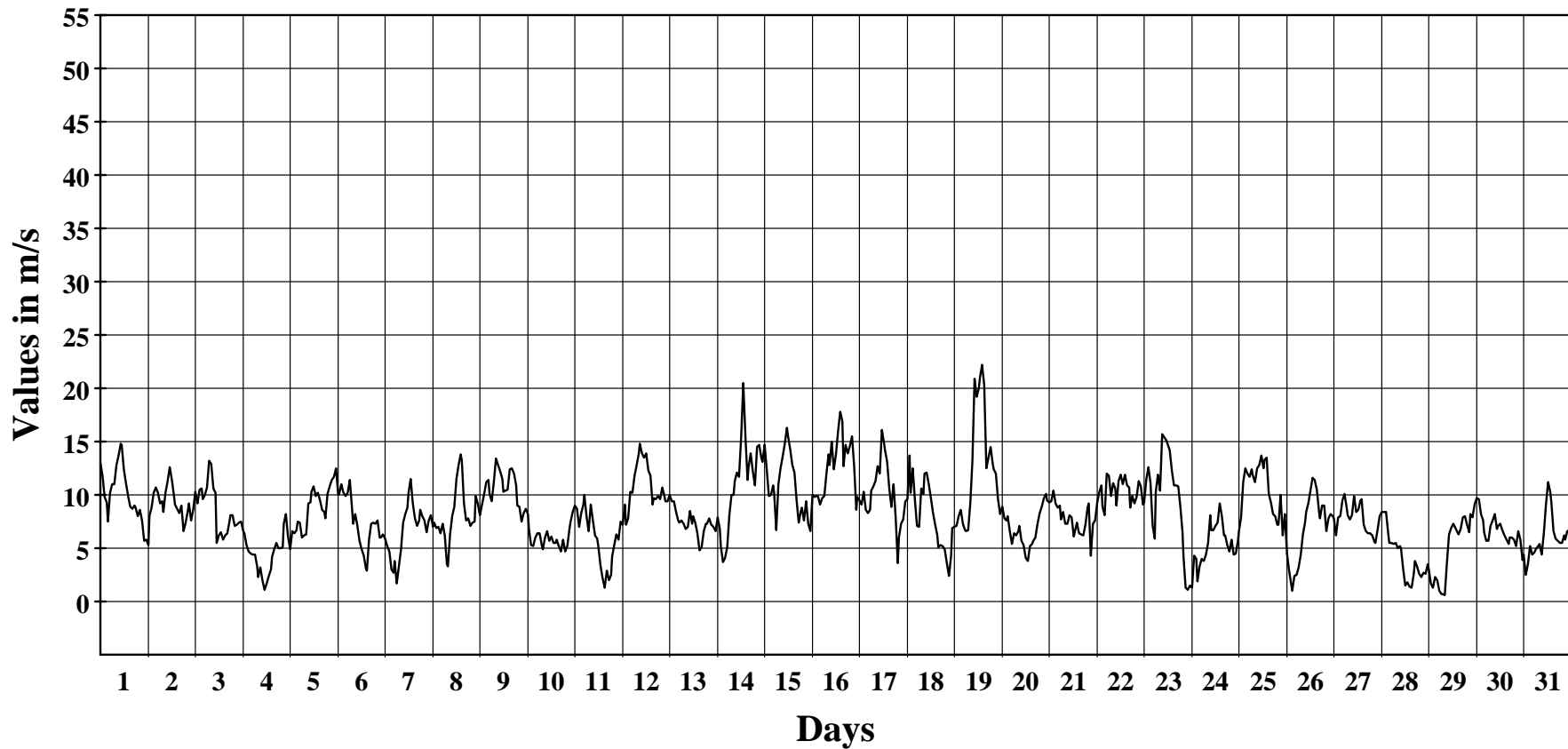
**December 2012**

**Hourly Averages Graph Ch 4**

SITE 0001

NMSU ASC at Clovis

**Average Hourly Values**



**Average Value: 8.3**

**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Sensor on channel 4:**

wind spd4 30m m/s

Height: 30 m Units: m/s

Serial #: SN:

**December 2012****Hourly Averages Table Ch 4**

SITE 0001

NMSU ASC at Clovis

Day	Hour																							AVG	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	13.0	11.8	9.8	9.3	7.5	10.2	11.0	11.0	12.8	13.7	14.8	14.7	12.4	11.1	9.9	8.9	8.7	9.0	8.8	8.0	8.6	7.6	5.7	5.8	10.2
2	5.3	8.0	8.8	10.2	10.7	10.2	9.2	9.4	8.4	10.2	11.3	12.6	11.4	9.9	9.1	8.7	8.3	9.0	6.6	7.4	8.5	9.3	7.6	8.6	9.1
3	10.3	9.2	10.5	10.6	9.6	10.0	10.7	13.2	12.9	10.6	10.2	5.5	6.2	6.5	5.8	6.2	6.4	7.5	8.1	8.1	7.1	7.2	7.4	7.5	8.6
4	6.6	6.4	5.3	4.7	4.5	4.4	4.4	3.3	2.3	3.3	2.0	1.1	1.7	2.4	3.0	4.2	4.9	5.5	5.0	5.1	7.3	8.2	6.1	4.5	
5	4.9	6.6	6.4	6.7	7.5	7.4	6.0	6.2	6.3	9.2	9.3	10.3	10.8	9.9	10.2	9.5	8.6	8.4	7.8	10.1	10.8	11.4	11.7	12.5	8.7
6	10.0	10.1	11.0	10.2	9.9	10.2	11.4	8.8	7.3	8.2	7.1	5.7	4.9	4.3	3.1	2.9	5.8	7.3	7.4	7.3	7.6	6.0	6.0	6.3	7.4
7	5.9	5.2	4.7	3.0	2.7	3.8	1.7	3.3	4.9	7.4	8.2	8.8	10.2	11.5	9.2	7.8	7.1	7.6	8.6	8.0	7.6	6.5	7.6	8.1	6.6
8	7.0	7.4	6.9	7.0	6.4	7.3	6.3	3.5	3.3	6.3	8.0	8.9	11.5	12.8	13.8	13.2	9.2	7.6	7.8	7.1	7.4	7.5	9.9	9.2	8.1
9	8.1	9.1	10.1	11.2	11.4	10.1	9.4	11.2	13.4	12.8	12.2	11.5	10.3	10.4	10.5	12.4	12.5	12.0	10.9	9.0	8.9	7.5	8.3	8.7	10.5
10	8.2	6.8	5.3	5.2	6.0	6.4	6.4	5.3	4.9	6.0	6.6	5.7	6.1	5.5	5.5	5.8	5.2	4.7	5.8	4.7	5.2	6.8	7.5	8.4	6.0
11	9.0	8.7	7.0	8.3	9.1	10.0	8.0	6.6	9.1	7.6	6.2	5.9	5.2	3.4	2.2	1.3	2.9	2.0	2.5	4.2	5.3	6.3	5.8	7.5	6.0
12	7.2	9.1	7.2	7.8	10.3	10.2	11.8	12.8	13.9	14.8	13.9	13.5	13.9	12.3	11.8	9.1	9.7	9.6	9.9	9.6	10.7	9.9	9.4	9.4	10.7
13	10.0	9.4	9.4	8.4	7.6	7.4	7.6	7.3	6.8	7.0	8.5	7.3	8.0	7.4	6.4	4.8	5.1	6.6	7.3	7.3	7.8	7.2	7.0	6.6	7.4
14	7.9	6.8	5.2	3.7	4.1	5.1	8.1	10.0	10.0	11.3	12.1	11.7	15.4	20.5	15.5	11.4	12.6	13.9	12.2	10.9	14.5	14.7	13.5	13.1	11.0
15	14.7	12.4	9.9	10.0	10.9	10.3	6.7	11.0	12.5	13.6	14.8	16.3	15.5	14.3	12.8	12.1	9.5	7.4	8.5	8.8	7.6	9.4	7.3	6.6	10.9
16	10.0	9.8	9.9	9.9	9.1	9.7	9.9	12.0	13.8	12.8	15.0	12.4	13.8	16.0	17.8	16.9	12.7	14.7	13.9	14.6	15.5	12.7	8.6	9.8	12.5
17	9.5	9.1	10.3	8.6	8.3	8.6	10.4	10.8	11.3	12.7	12.0	16.1	14.9	14.2	13.1	10.6	8.9	11.0	7.9	3.6	6.0	7.3	7.7	9.4	10.1
18	9.6	13.7	10.2	12.5	9.6	7.1	7.0	10.6	10.1	12.0	12.1	11.0	9.7	8.3	7.3	6.2	5.1	5.3	5.3	4.9	3.6	2.4	4.3	6.9	8.1
19	7.0	7.1	8.0	8.6	7.3	6.7	6.6	6.7	9.2	13.2	20.9	19.2	20.0	21.0	22.3	20.3	12.5	13.5	14.5	12.9	12.4	12.0	9.6	8.2	12.5
20	8.9	7.8	7.6	8.0	6.6	5.4	6.4	6.2	6.6	7.1	5.7	5.3	4.1	3.8	5.2	5.4	5.7	6.0	7.3	8.3	8.9	9.7	10.1	9.5	6.9
21	9.3	9.4	10.4	9.2	8.8	9.0	7.7	8.4	7.3	7.3	8.1	7.9	6.1	6.5	7.4	6.4	6.3	6.3	7.2	8.8	9.2	4.3	7.3	7.6	7.8
22	9.3	10.3	10.9	8.9	8.1	12.0	11.8	9.9	11.1	10.6	9.0	11.3	11.9	11.0	11.9	10.9	10.7	8.8	9.9	9.2	9.8	11.3	10.8	9.1	10.4
23	9.3	11.4	12.6	11.1	7.1	5.9	10.3	11.9	10.4	15.7	15.4	15.1	14.5	14.2	12.3	10.9	10.9	10.8	8.9	6.5	4.2	1.3	1.1	1.5	9.7
24	1.3	4.3	4.0	1.9	3.3	4.0	3.8	4.4	5.5	8.1	6.7	6.7	7.1	7.4	9.2	8.0	6.2	6.3	5.3	4.7	5.8	4.4	4.5	5.7	5.3
25	6.6	7.9	11.2	12.5	12.0	11.7	12.4	11.8	11.2	12.5	12.8	13.7	12.5	13.3	13.5	10.1	9.3	8.2	8.0	7.2	7.2	10.0	6.2	8.2	10.4
26	4.5	2.9	1.6	1.0	2.4	2.5	3.2	4.4	6.3	7.4	8.4	9.2	10.4	11.6	11.4	10.5	8.5	7.8	9.0	9.0	6.6	7.8	8.2	8.0	6.8
27	7.8	6.3	7.9	8.0	9.5	10.1	8.8	8.1	7.7	8.1	9.9	8.4	8.6	9.5	9.6	7.2	6.6	6.4	6.4	6.2	5.6	5.5	6.7	8.0	7.8
28	8.4	8.4	8.4	6.4	5.5	5.5	5.4	5.5	5.0	5.2	5.0	3.1	1.5	1.8	1.4	1.3	2.6	3.8	3.3	2.6	2.3	2.7	2.6	3.5	4.2
29	3.1	1.7	1.3	2.3	2.0	1.0	0.7	0.7	0.6	3.6	6.3	6.9	7.3	6.9	6.7	6.3	6.8	7.9	8.0	7.2	6.5	8.2	7.9	9.1	5.0
30	9.7	9.6	8.2	7.6	6.5	5.7	5.7	7.1	7.6	8.2	6.8	7.1	7.3	6.7	6.3	5.8	5.4	6.0	6.0	5.8	5.2	6.6	5.8	3.9	6.7
31	4.4	2.5	3.5	5.2	4.4	4.6	5.0	5.1	5.4	4.4	6.4	9.1	11.2	10.3	9.3	6.6	5.9	5.7	5.5	5.5	6.2	5.8	6.6	6.7	6.1
AVG	8.0	8.0	7.9	7.7	7.4	7.5	7.5	8.0	8.3	9.4	9.9	9.7	9.8	9.8	9.5	8.4	7.8	7.9	7.8	7.5	7.7	7.6	7.4	7.7	8.3

**Site Information:**

Project: wind monitoring  
Location: clovis nm  
Elevation: 50

**Sensor on channel 9:**

amb temp C°  
Height: m  
Serial #: SN:

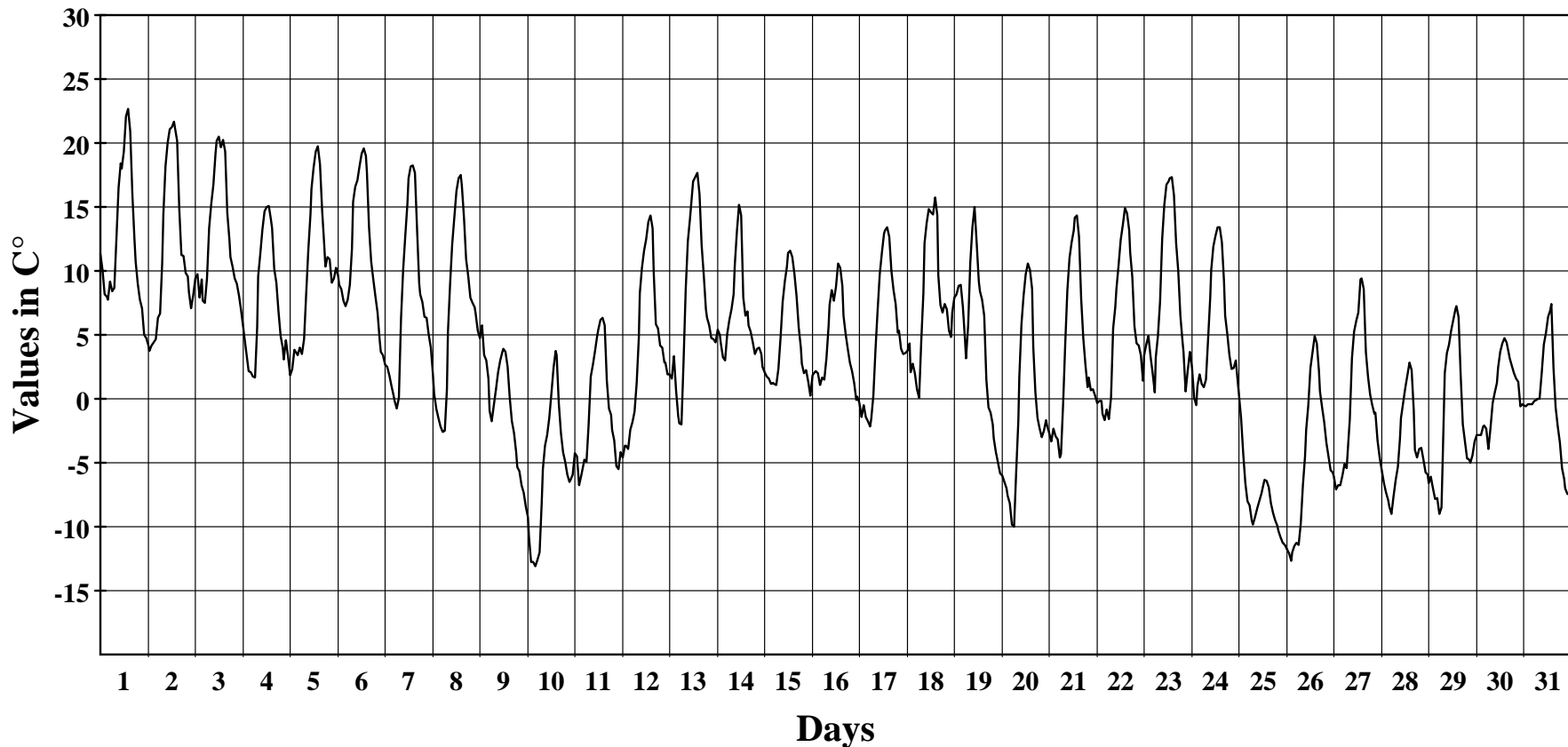
**December 2012**

**Hourly Averages Graph Ch 9**

SITE 0001

NMSU ASC at Clovis

**Average Hourly Values**



**Average Value: 4.0**

**Site Information:**

Project: wind monitoring

Location: clovis nm

Elevation: 50

**Sensor on channel 9:**

amb temp C°

Height: m Units: C°

Serial #: SN:

**December 2012****Hourly Averages Table Ch 9**

SITE 0001

NMSU ASC at Clovis

Day	Hour																							AVG	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	11.3	10.1	8.2	8.0	7.8	9.2	8.5	8.7	12.6	16.5	18.5	18.0	19.4	22.1	22.7	20.9	16.0	12.4	10.7	9.0	7.8	7.1	5.0	4.8	12.3
2	4.2	3.8	4.2	4.4	4.6	6.3	6.6	10.6	14.4	18.1	20.0	21.1	21.2	21.6	21.2	20.1	14.9	11.3	11.2	9.9	9.6	8.3	7.1	8.0	11.8
3	9.4	9.7	7.9	9.3	7.7	7.5	9.4	13.4	15.2	16.7	19.2	20.1	20.5	19.6	20.3	19.3	14.5	12.4	11.1	10.3	9.4	9.0	8.1	6.9	12.8
4	5.6	4.8	3.5	2.2	2.1	1.7	1.7	5.6	9.6	11.3	13.2	14.6	15.0	15.1	14.0	13.3	10.2	9.1	6.9	4.9	4.0	3.1	4.5	3.4	7.5
5	1.8	2.4	3.8	3.6	3.4	4.0	3.5	4.7	8.2	11.7	14.4	16.4	18.1	19.3	19.8	18.3	14.7	12.0	10.3	11.1	10.9	9.1	9.4	10.3	10.1
6	9.5	9.0	8.6	7.6	7.3	7.7	8.9	11.8	15.4	16.6	17.1	18.2	19.2	19.6	19.0	17.8	13.4	10.8	9.3	8.0	6.8	4.6	3.6	3.4	11.4
7	2.6	2.5	1.8	1.0	0.3	-0.1	-0.8	0.1	6.2	10.1	12.8	15.3	17.3	18.2	18.2	17.7	13.2	9.0	8.1	7.6	6.4	6.3	5.0	4.0	7.6
8	1.8	0.4	-0.7	-1.5	-2.1	-2.6	-2.5	0.7	5.1	8.9	12.1	14.2	16.3	17.3	17.5	16.7	14.2	10.9	9.6	7.9	7.5	7.2	6.7	5.4	7.1
9	4.8	5.7	3.5	3.0	1.6	-0.9	-1.7	-0.5	0.8	2.1	3.0	3.7	3.9	3.7	2.5	0.1	-1.7	-2.7	-4.1	-5.3	-5.7	-6.8	-7.4	-8.4	-0.3
10	-9.3	-10.7	-12.7	-12.7	-13.0	-12.6	-12.0	-8.1	-5.5	-3.6	-2.9	-1.5	0.4	2.4	3.7	3.4	-0.3	-2.7	-4.2	-4.9	-5.9	-6.5	-6.3	-5.9	-5.5
11	-4.2	-4.5	-6.7	-6.0	-5.1	-4.7	-4.9	-2.0	1.8	2.7	3.7	4.9	5.5	6.2	6.4	5.8	1.4	-0.7	-1.3	-2.4	-3.3	-5.2	-5.5	-4.2	-0.9
12	-4.6	-3.7	-3.6	-4.0	-2.4	-1.8	-1.0	1.3	4.7	8.3	10.2	11.6	12.5	13.8	14.3	13.3	9.8	5.8	5.5	4.1	4.0	2.8	2.8	1.9	4.4
13	1.9	1.6	3.3	0.7	-1.3	-1.9	-2.0	3.0	8.6	12.3	14.1	16.1	17.0	17.3	17.7	16.0	12.0	9.7	7.0	6.3	5.7	4.8	4.7	4.4	7.5
14	5.4	5.0	4.3	3.3	3.0	5.1	6.2	7.0	8.2	10.5	13.0	15.1	14.3	7.9	6.5	6.8	5.8	5.3	4.4	3.5	3.9	4.0	3.5	2.5	6.4
15	2.0	1.7	1.6	1.2	1.2	1.2	1.1	2.4	4.8	7.5	9.2	10.3	11.4	11.6	11.1	9.8	8.0	5.6	4.0	2.8	2.0	2.2	1.3	0.3	4.8
16	1.8	2.1	2.2	2.0	1.1	1.6	1.5	3.2	5.7	7.4	8.5	7.7	8.7	10.6	10.3	8.8	6.5	5.1	3.9	2.9	2.2	1.3	-0.1	0.1	4.4
17	-0.4	-1.4	-0.5	-1.4	-1.7	-2.1	-1.6	0.3	3.8	7.0	9.7	11.4	12.9	13.2	13.4	12.7	10.0	8.5	7.4	5.1	5.4	3.9	3.5	3.6	5.1
18	3.8	4.3	2.1	2.8	2.0	0.8	0.1	4.5	8.3	12.1	13.8	14.8	14.6	14.4	15.7	14.3	9.7	7.3	6.8	7.5	7.0	5.4	4.8	6.8	7.6
19	7.9	8.2	8.8	8.9	7.1	4.6	3.1	5.7	10.6	13.4	15.0	12.2	9.2	8.4	7.7	6.5	1.5	-0.7	-1.1	-2.0	-3.1	-4.2	-5.0	-5.8	4.9
20	-6.0	-6.5	-7.0	-7.6	-8.2	-9.8	-10.0	-5.7	-1.8	1.8	5.8	8.1	9.7	10.5	10.1	8.6	4.1	0.5	-1.5	-2.4	-3.0	-2.5	-1.7	-2.1	-0.7
21	-2.7	-3.4	-2.3	-2.9	-3.2	-4.6	-4.3	-0.4	4.3	8.5	11.0	12.2	13.2	14.2	14.3	12.6	7.9	4.8	2.6	1.0	1.6	0.6	0.7	0.3	3.6
22	-0.3	-0.2	-0.2	-1.2	-1.7	-0.8	-1.6	0.1	5.5	7.2	8.6	10.4	12.4	13.6	14.9	14.5	13.1	11.4	9.5	5.7	4.3	4.2	3.4	1.4	5.6
23	3.4	4.3	4.9	3.3	2.0	0.5	3.3	4.9	7.6	12.5	15.1	16.7	17.0	17.3	17.3	15.9	12.2	10.0	6.5	4.5	3.6	0.6	2.3	3.7	7.9
24	2.4	0.1	-0.5	1.0	1.9	1.2	0.9	1.5	4.7	7.9	10.1	11.9	12.8	13.4	13.4	12.2	9.2	6.5	5.1	3.4	2.3	2.4	3.0	1.2	5.3
25	0.3	-1.5	-4.3	-6.6	-8.0	-8.3	-9.5	-9.8	-9.2	-8.6	-8.0	-7.4	-6.6	-6.3	-6.4	-6.9	-8.2	-9.0	-9.5	-10.0	-10.3	-10.8	-11.2	-11.4	-7.8
26	-11.8	-12.1	-12.7	-12.0	-11.5	-11.2	-11.4	-9.8	-6.7	-4.5	-2.4	-0.5	2.4	3.7	4.9	4.3	2.2	0.6	-0.7	-1.8	-3.4	-4.5	-5.5	-5.8	-4.6
27	-6.1	-7.1	-6.8	-6.7	-6.0	-5.1	-5.5	-4.1	-1.6	3.2	5.2	6.1	6.8	9.3	9.4	8.5	3.7	1.8	0.4	-0.5	-1.2	-1.1	-3.3	-4.6	-0.2
28	-5.6	-6.6	-7.3	-7.9	-8.4	-9.0	-7.6	-6.4	-5.3	-3.1	-1.5	-0.3	0.8	1.8	2.8	2.3	-0.9	-4.0	-4.6	-3.9	-3.8	-4.7	-5.7	-5.9	-3.9
29	-6.5	-6.1	-7.0	-7.9	-7.8	-9.0	-8.5	-5.0	2.0	3.6	4.2	5.3	6.2	7.0	7.3	6.5	1.9	-2.0	-3.3	-4.7	-4.8	-5.0	-4.4	-3.3	-1.7
30	-2.8	-2.8	-2.8	-2.2	-2.1	-2.3	-3.9	-2.3	-0.3	0.5	1.3	2.4	3.7	4.4	4.7	4.5	3.6	3.1	2.6	2.0	1.6	1.3	-0.6	-0.5	0.5
31	-0.5	-0.6	-0.5	-0.4	-0.4	-0.2	-0.1	0.0	0.0	2.0	4.2	5.2	6.4	7.0	7.4	2.5	-0.6	-2.1	-3.4	-5.4	-6.2	-7.0	-7.4	-7.5	-0.3
AVG	0.6	0.3	-0.2	-0.6	-1.0	-1.2	-1.1	1.1	4.4	7.1	9.0	10.1	11.0	11.6	11.7	10.5	7.2	4.8	3.5	2.4	1.8	1.0	0.5	0.2	4.0

**Energy production estimated for December 2012 at  
the Agricultural Science Center at Clovis**

Wind Speed (m/s)	# of hours at given wind speed	Power Curve <sup>1</sup> (kW)	Energy Production (kWh)
0	0	0	0
1	6	0	0
2	15	0	0
3	19	12	236
4	25	77	1,946
5	32	150	4,777
6	40	288	11,418
7	63	457	28,545
8	64	682	43,469
9	86	971	83,189
10	97	1,234	119,957
11	68	1,470	99,206
12	50	1,500	74,250
13	33	1,500	49,800
14	19	1,500	28,950
15	12	1,500	18,300
16	8	1,500	12,000
17	9	1,500	13,050
18	9	1,500	13,050
19	7	1,500	10,950
20	6	1,500	9,300
<b>Total</b>	<b>672</b>		<b>622,420</b>
		<b>December 2012 Monthly Capacity Factor</b>	
		<b>61.70%</b>	

*These results are only estimates, therefore should not be considered as a feasibility analysis nor be intended as a wind farm development analysis.*

<sup>1</sup> Power Curve approximated for a GE 1.5 MW Wind Turbine @ 65 m hub height.