



Nanortalik

A preliminary analysis of the wind measurements

Note pr 26.08.2008

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Kjeller Vindteknikk AS

Introduction

A 50 m measuring tower has been erected at Nanortalik Heliport. The aim is to map the wind resources at Nanortalik as part of the Vest-Norden project. The Vest-Norden project aims to introduce renewable energy sources in combination with hydrogen for energy storage for distant settlements. The mast has been operative since July 1st 2007. This note will summarize the measurements per August 25th 2008. The measurements will continue for another year. The site will be referred to as *6101 Nanortalik*.

Sensors

The mast is equipped with the sensors listed in Table 1. The different anemometers have different characteristics regarding precision. The measurements by the Risø P2546A sensor are given an uncertainty of less than 1%. The measuring range is 0.3-70 m/s. The NRG #40 has an accuracy of 0.1m/s within the range 5-25m/s. The measuring range is from 0.35 m/s. 6101 Nanortalik is equipped with heated sensors that can be valuable in case of icing episodes which can stop or slow down the unheated anemometers. However the precision of the heated anemometer is lower than for the others. The uncertainty of the NRG Icefree III is 4-5%. The measuring range starts at 1 m/s for this anemometer. The icefree anemometer is not calibrated, but an offset value will be calculated by comparing the icefree anemometer to the other anemometers for a period without icing.

Table 1 Sensors mounted at 6101 Nanortalik

Parameter	Type	Height [m]
Wind Speed	NRG #40	48.8
Wind Speed	NRG #40	30.0
Wind Speed	NRG #40	10.0
Wind Speed	Risø P2546A	48.8
Wind Speed	NRG Icefree III	47.5
Wind Direction	NRG Icefree III	47.2
Wind Direction	NRG #200P	41.4
Temperature	NRG 110S	



A picture of the mast is shown in Figure 1. The sensors are mounted on booms with a distance of at least 120cm from the mast-centre. This is done to minimize the influence of the mast itself on the measurements. The sensors are also mounted about 50cm higher than the boom itself to minimize the influence of the boom on the measurements. The predominant wind directions have to some degree been analyzed upfront of the installation of the mast so that any influence from the mast, boom and lightning rod on the measurements will be at the sectors with the least frequent winds. Although these precautions have been made to minimize external influence on the measurements it can not be totally avoided. All sensors except those at the top of the mast will be influenced by the mast itself for certain wind directions.

The logger has been set up to transfer all data on a daily basis. The data is sent by email by a telephone modem included in the logger. The data returned are 10 minute averages, maximum value, minimum value and standard deviation.



Figure 1 the 50m met mast 6101 Nanortalik

Summary of measurements

The data coverage has been good for the measurement period (99.96 %). We have analyzed the data with regard to icing. Icing has been identified for a total of 63 hours during the measuring period. Icing is not found to be a large problem at this site.

Table 2 shows the annual averages for the different sensors. We see that the icefree sensor gives a higher value than the other sensors at this height. The data from the ice free sensors need to be calibrated toward one of the other sensors (on-site calibration) in order to use the data for further analysis. This is a common methodology used for the data from the ice free anemometer. Since icing on the instruments is a minor problem at this site we will in this note only consider the data from the unheated anemometers, excluding the hours where icing is identified, for better precision. The anemometers at 48.8 meters differs by 0.2 m/s. The annual average for the Risø anemometer is found to be 6.4 m/s, while for the NRG anemometer it is 6.2 m/s. The NRG anemometer at 30m also gives 6.2 m/s as the annual average, one would expect the average value to be higher at 50m than at 30m. It is likely that the annual average found for the NRG anemometer at 48.8m height is somewhat lower than the actual value. Risø's 6.4m/s is probably a more accurate estimate of the annual wind speed at 48.8m height.

We find that for all instruments the 99 percentile value is at around 20m/s or less. 25 m/s is a typical cut-out speed for turbines. For higher values than the cut-out speed the power production is stopped. We do find that the maximum measured value is higher than 25m/s. But from these data power production losses due to too high wind speed will be quite low.

Table 2 Annual average, 99 percentile value and maximum measured value for July 1 2007 - August 25 2008

sensor	annual average	99 percentile	maximum
NRG #40 - 48.8 m	6.2 m/s	19.7 m/s	26.3 m/s
NRG #40 - 30.0 m	6.2 m/s	19.1 m/s	25.5 m/s
NRG #40 - 10.0 m	5.5 m/s	17.0 m/s	23.7 m/s
Risø P2546A -48.8 m	6.4 m/s	20.0 m/s	27.1 m/s
NRG Icefree III - 47.5 m	7.2 m/s	21.2 m/s	28.0 m/s

Table 3 Monthly averages for the Risø anemometer at 48.8 m height based on data for the period July 1 2007 - August 25 2008.

Month	average wind speed [m/s]
January	7.0
February	8.6
March	7.4
April	5.9
May	5.1
June	4.1
July	4.3
August	5.4
September	7.2
October	6.6
November	7.3
December	7.9
Annual	6.4

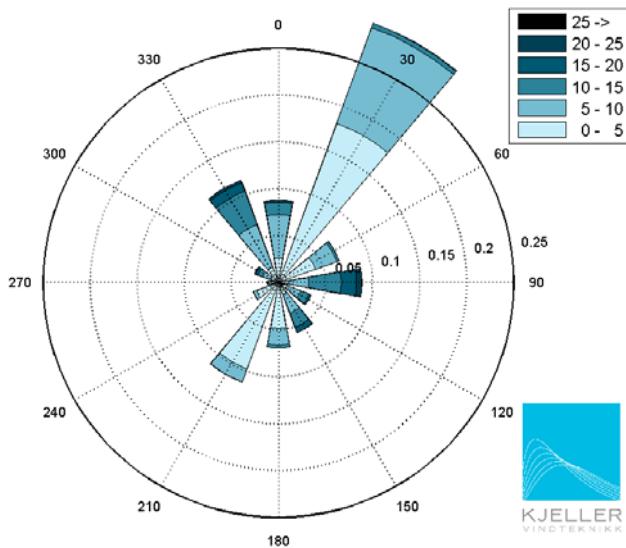


Figure 2 Wind rose for 6101 Nanortalik based on data for July 1 2007 - August 25 2008. The wind rose is plotted using the Risø anemometer at 48.8 m and NRG icefree wind wane at 47.2 m height.

Table 3 shows the monthly variation in wind speed. The highest wind speeds are found for the winter season (September-March), while the average wind speed is clearly lower for the summer months (May-August).

The wind rose at 6101 Nanortalik is shown in Figure 2. The dominant wind direction is from sector 2 (N-NE) with a frequency of approximately 30%. The opposite sector (sector 8) also has a relatively high frequency. However, the wind from these sectors are generally related to low wind speed, generally less than 10m/s. Quite large frequency is also found for wind from sector 4 (E), sector 12 (N-NW) and sector 1(N). Winds from these sectors are generally related to higher wind speed and may thus be more relevant for wind power production. The distribution for each sector is shown in Figure 3.

The distribution for all sectors is shown in Figure 4, the estimated weibull distribution is also shown. We see some clear discrepancies between the estimated weibull distribution and the measurements. We find large frequency of measurements in the range 3-6 m/s. This is typically a range with little power production. While for the range 7-11 m/s the measurements shows less frequency than the weibull function estimates. By using this to estimate the power production we see that the measured frequency distribution is less optimal for wind power production than the estimated weibull-function. One should keep this in mind if estimating power production by using the annual mean value.

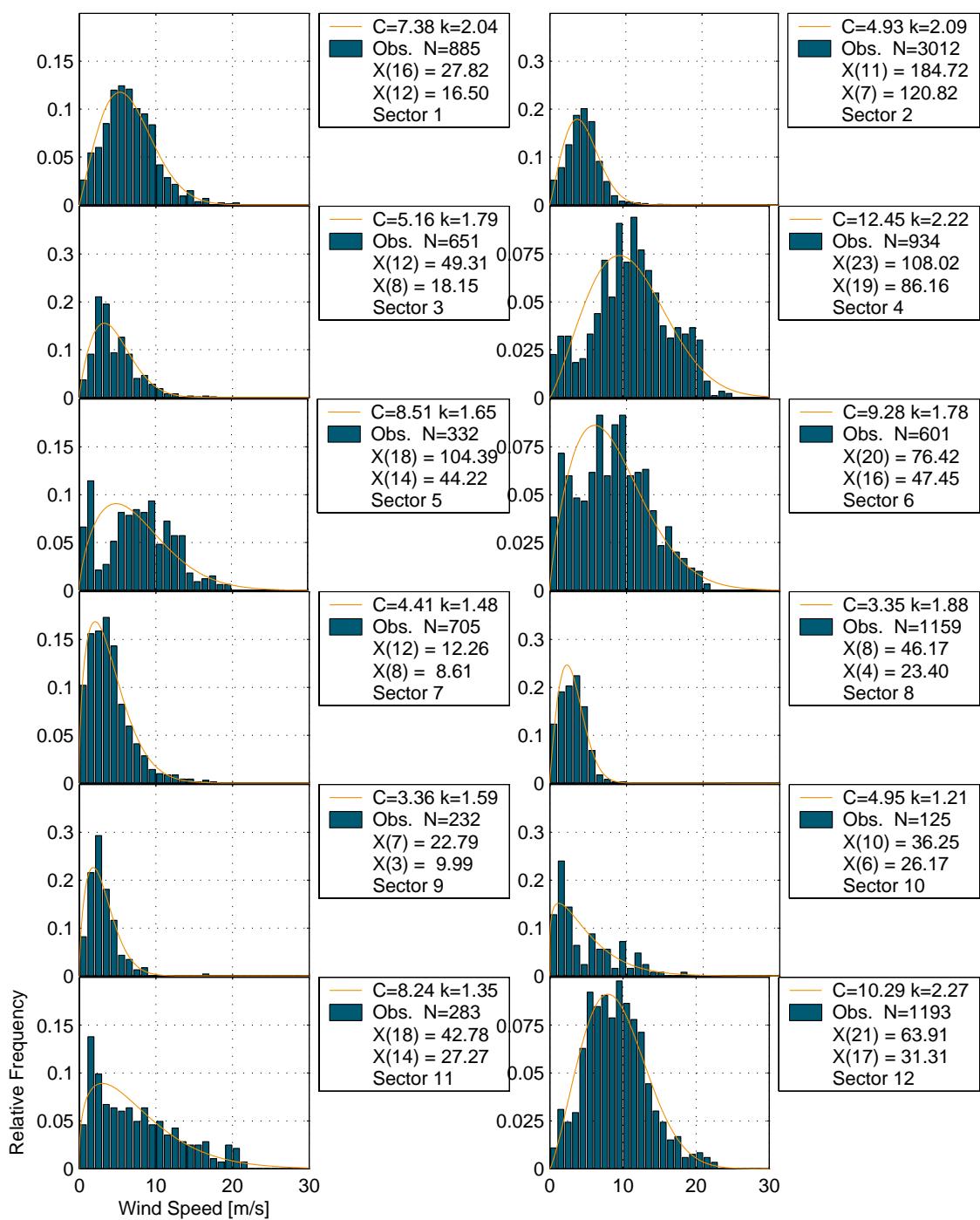


Figure 3 Distribution of wind speed for 12 sectors, and calculated weibull distribution for each sector. Sector 1 is north (345° - 15°), each sector covers 30° in clockwise direction. The distribution is calculated using the Risø anemometer at 48.8 m and NRG icefree wind wane at 47.2 m height.

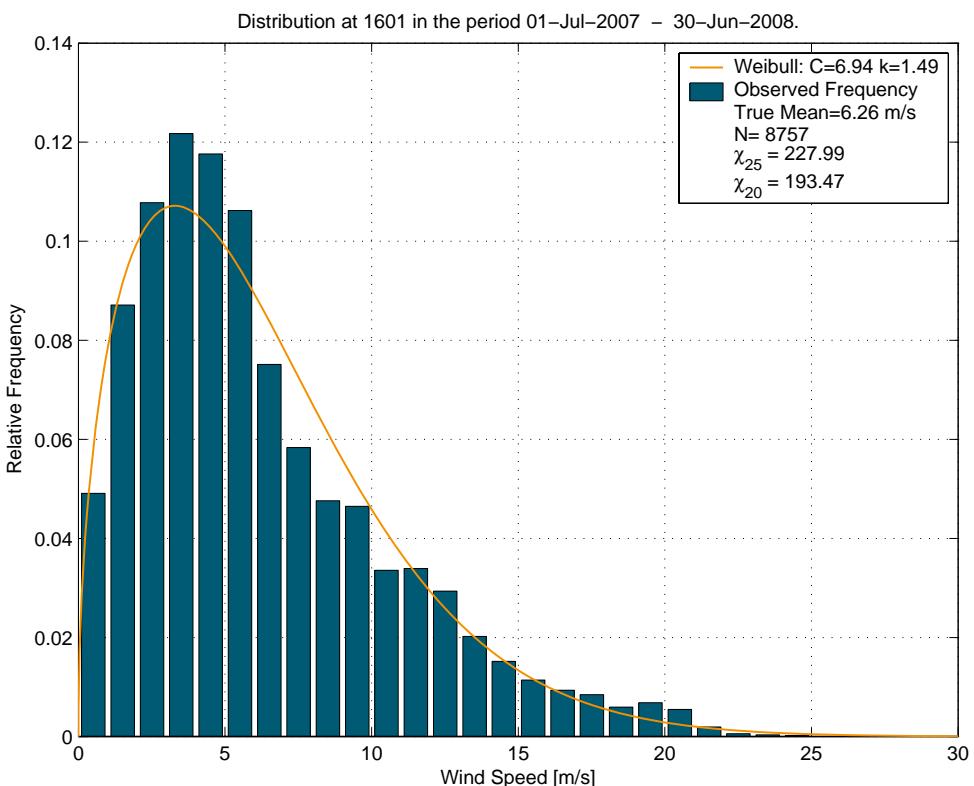


Figure 4 Distribution of wind speed and calculated weibull distribution for 6101 Nanortalik. The distribution is calculated using the Risø anemometer at 48.8 m and NRG icefree wind wane at 47.2 m height.

Possible reference data

Possible reference data for this site can be the WMO met station also located at Nanortalik Heliport. These data can give valuable information about the long term expected wind climate at Nanortalik. We have not been able to collect those data, but it should be considered for the main report for this site.

Data from NCEP/NCAR reanalysis has been evaluated for this site, but not found to be representative for Nanortalik.

Summary

Icing has been a minimal problem at this site during 1 year of observations. Annual average wind speed has been measured to 6.4 m/s at 50m height. The main wind direction is from sector 2, with large members also from sectors 1 and 12. The distribution of the wind speed measurements appears to be less optimal for wind power production than the estimated weibull distribution. This must be considered when estimating power production using the mean value with a weibull distribution.

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

juli 2007**Summary Report**

SITE 1601

Nanortalik

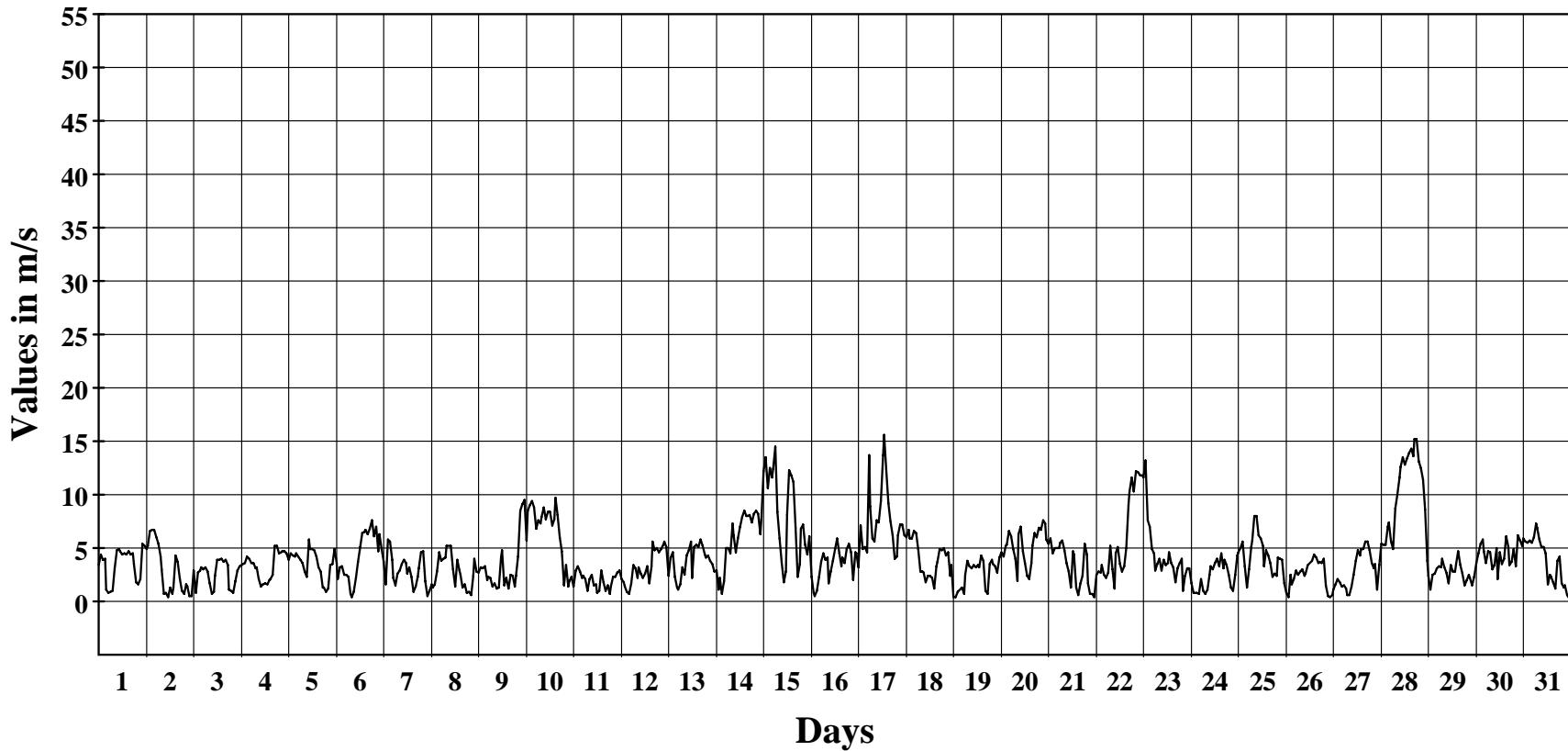
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Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	4.14	4.14	3.82	4.23	4.64		143.73	124.16	6.74			13.85
Average for All Data	4.14	4.14	3.82	4.23	4.64		143.73	124.16	6.74			13.85
Min Interval Average	0.3	0.3	0.3	0.2	1				-0.1			13.2
Date of Min Interval	01.07.2007	03.07.2007	03.07.2007	26.07.2007	02.07.2007				01.07.2007			15.07.2007
Time of Min Interval	05:10:00	18:30:00	19:30:00	01:20:00	09:10:00				00:20:00			11:00:00
Max Interval Average	17.1	16.7	15.3	17.2	18.7				17.3			14.6
Date of Max Interval	28.07.2007	28.07.2007	28.07.2007	28.07.2007	28.07.2007				24.07.2007			01.07.2007
Time of Max Interval	17:40:00	17:40:00	17:40:00	17:40:00	17:40:00				15:30:00			06:30:00
Average Interval SD	0.53	0.52	0.59	0.53	0.5		3.1	10.39	0.11			0
Min Sample	0.3	0.3	0.3	0.2	1				-0.4			13
Date of Min Sample	02.07.2007	02.07.2007	02.07.2007	02.07.2007	02.07.2007				01.07.2007			15.07.2007
Time of Min Sample	09:00:00	09:10:00	09:10:00	09:10:00	09:00:00				00:30:00			11:00:00
Max Sample	20.4	20.2	19.8	20.6	23.3				17.6			15
Date of Max Sample	28.07.2007	28.07.2007	28.07.2007	28.07.2007	28.07.2007				24.07.2007			08.07.2007
Time of Max Sample	17:30:00	16:00:00	17:10:00	17:40:00	17:40:00				15:00:00			07:10:00
Average Interval TI	0.18	0.18	0.2	0.16	0.12							
Wind Speed Direction							NN	NE				

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

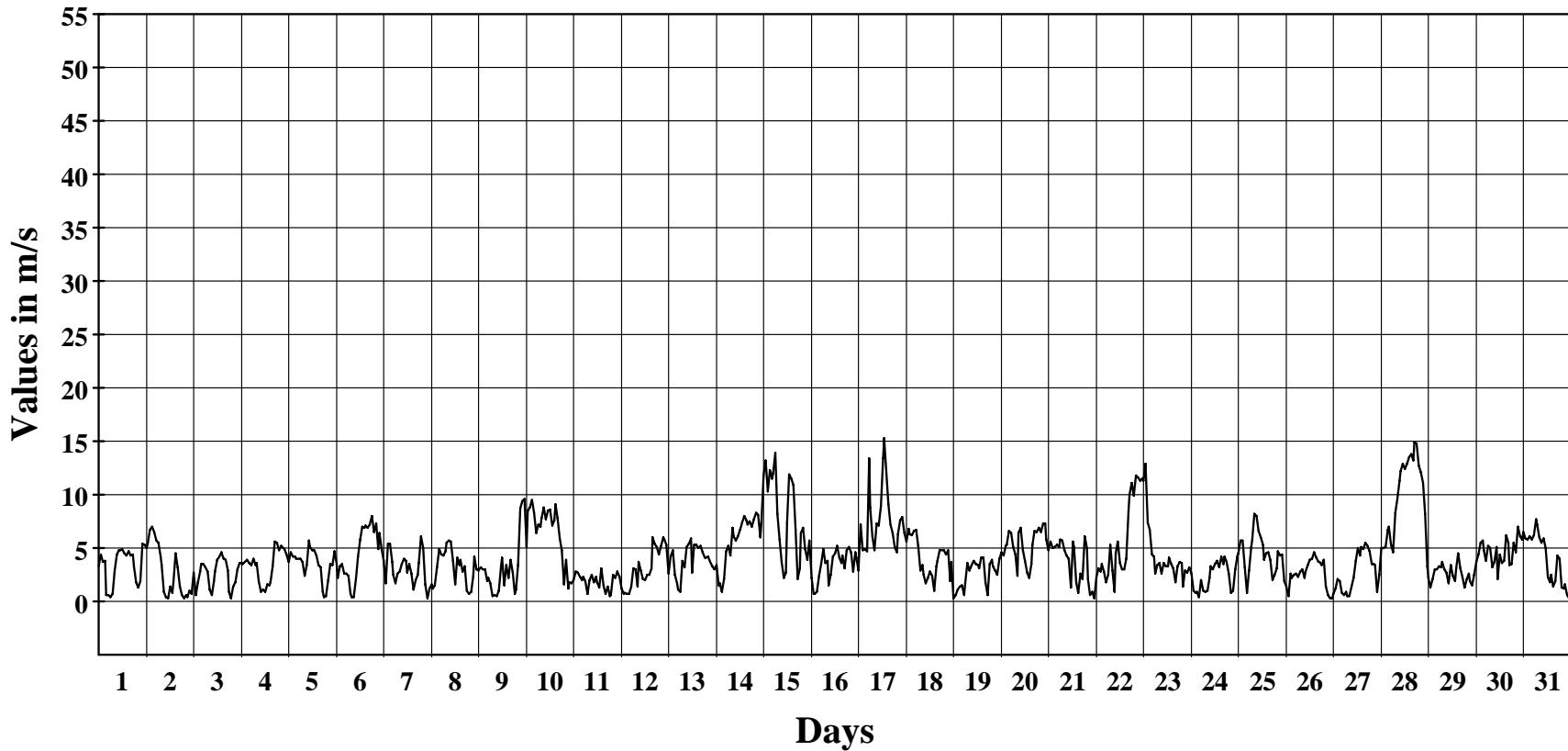
juli 2007**Hourly Averages Graph Ch 1**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 4.1**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

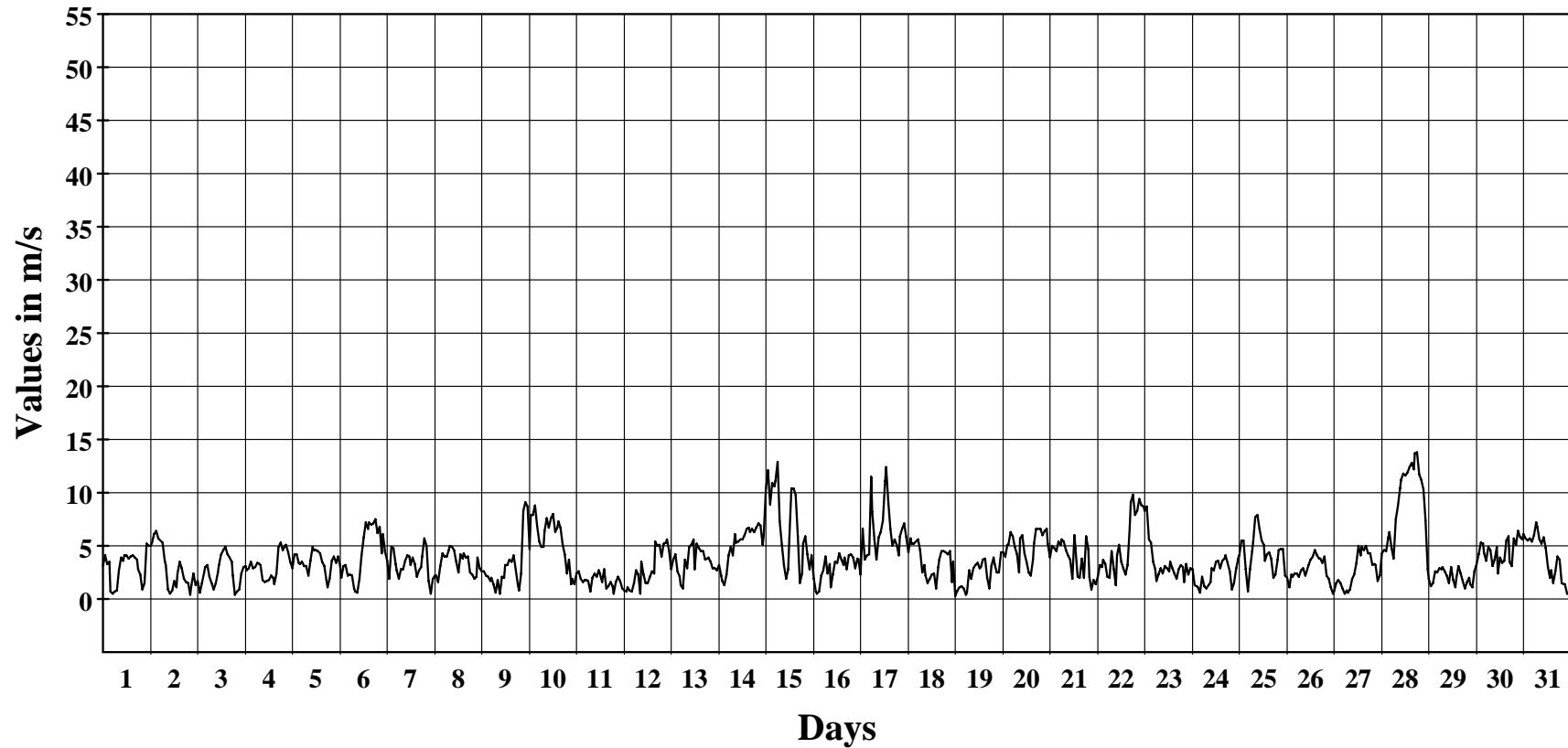
juli 2007**Hourly Averages Graph Ch 2**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 4.1**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

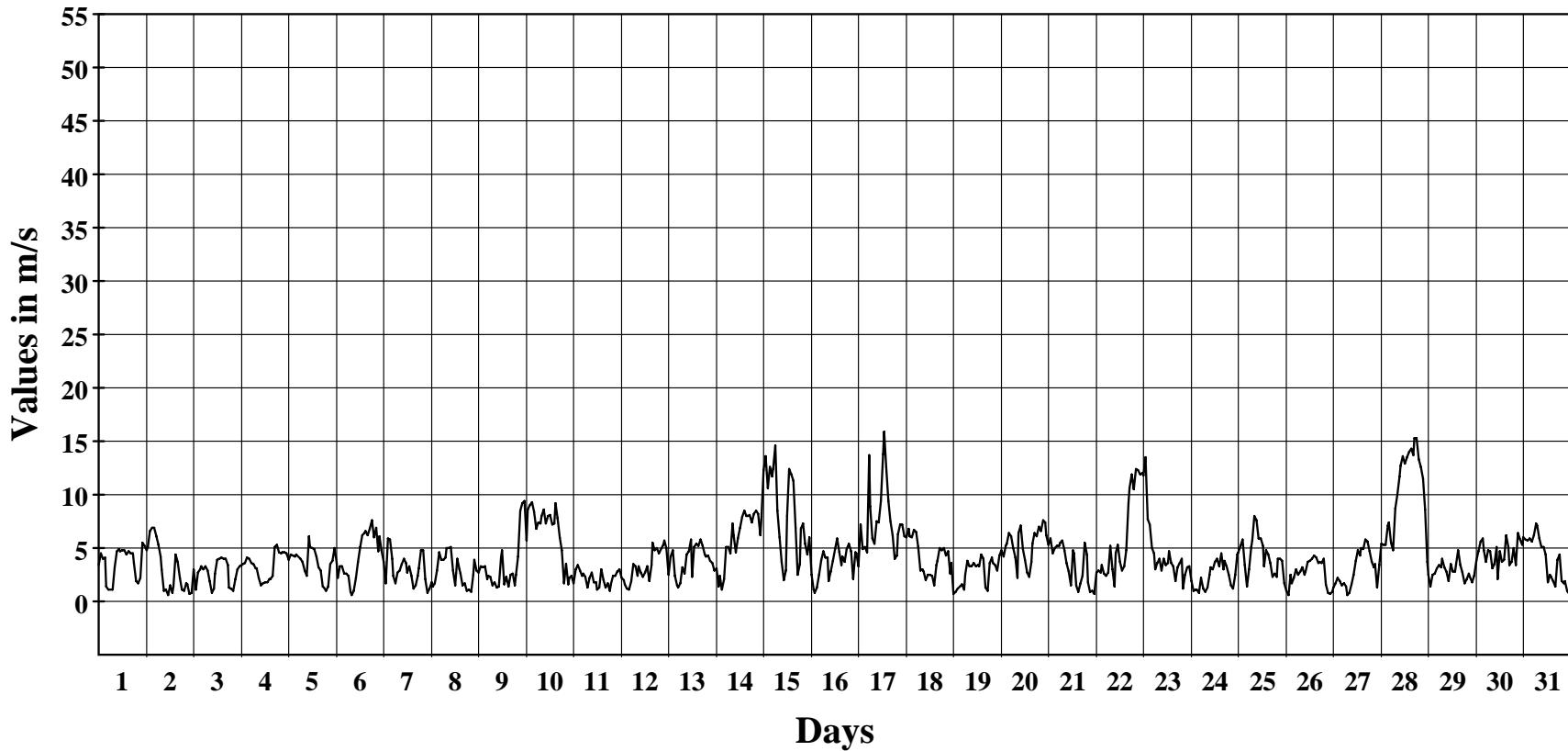
juli 2007**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 3.8**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

juli 2007**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 4.2**

Site Information:

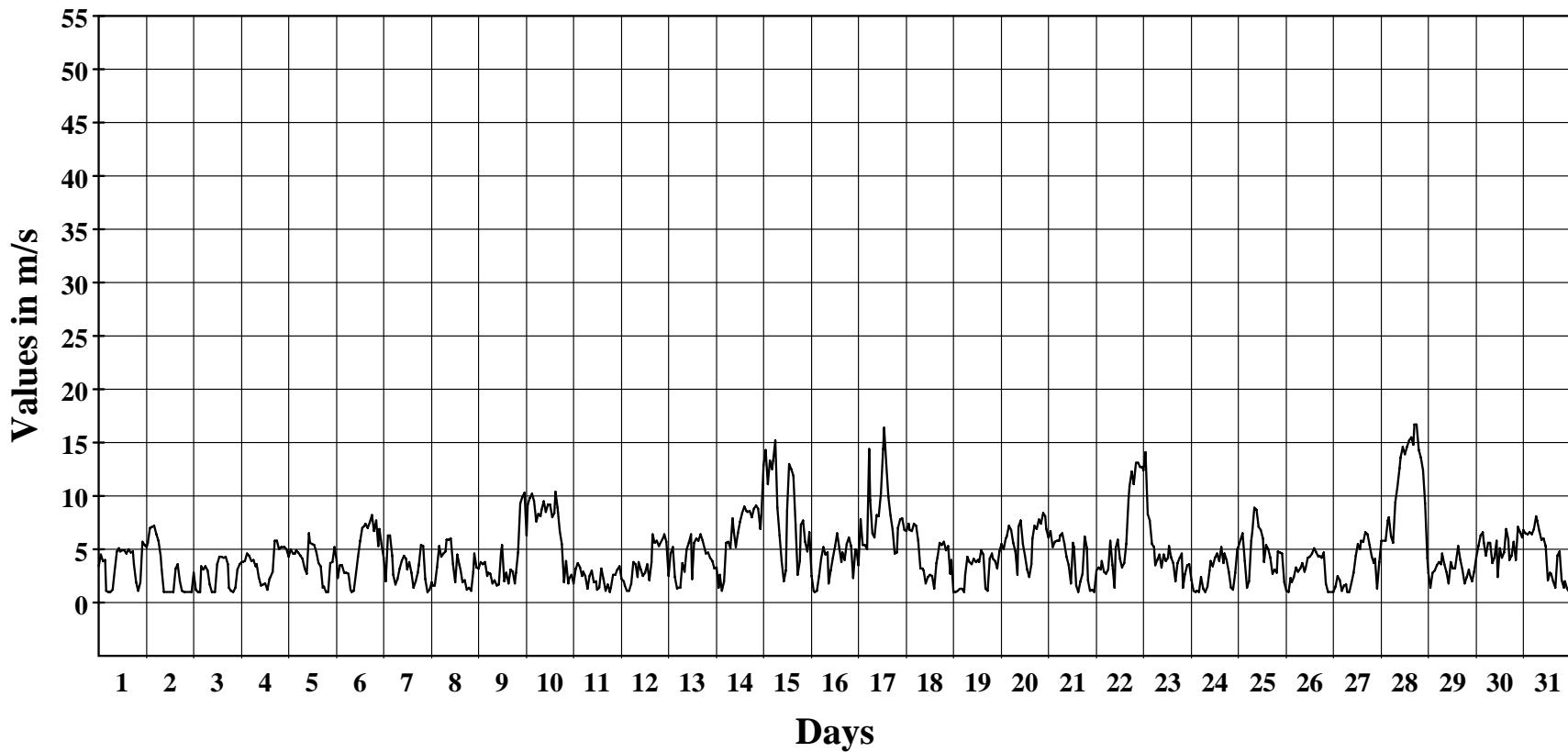
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Location: Grønland
Elevation:

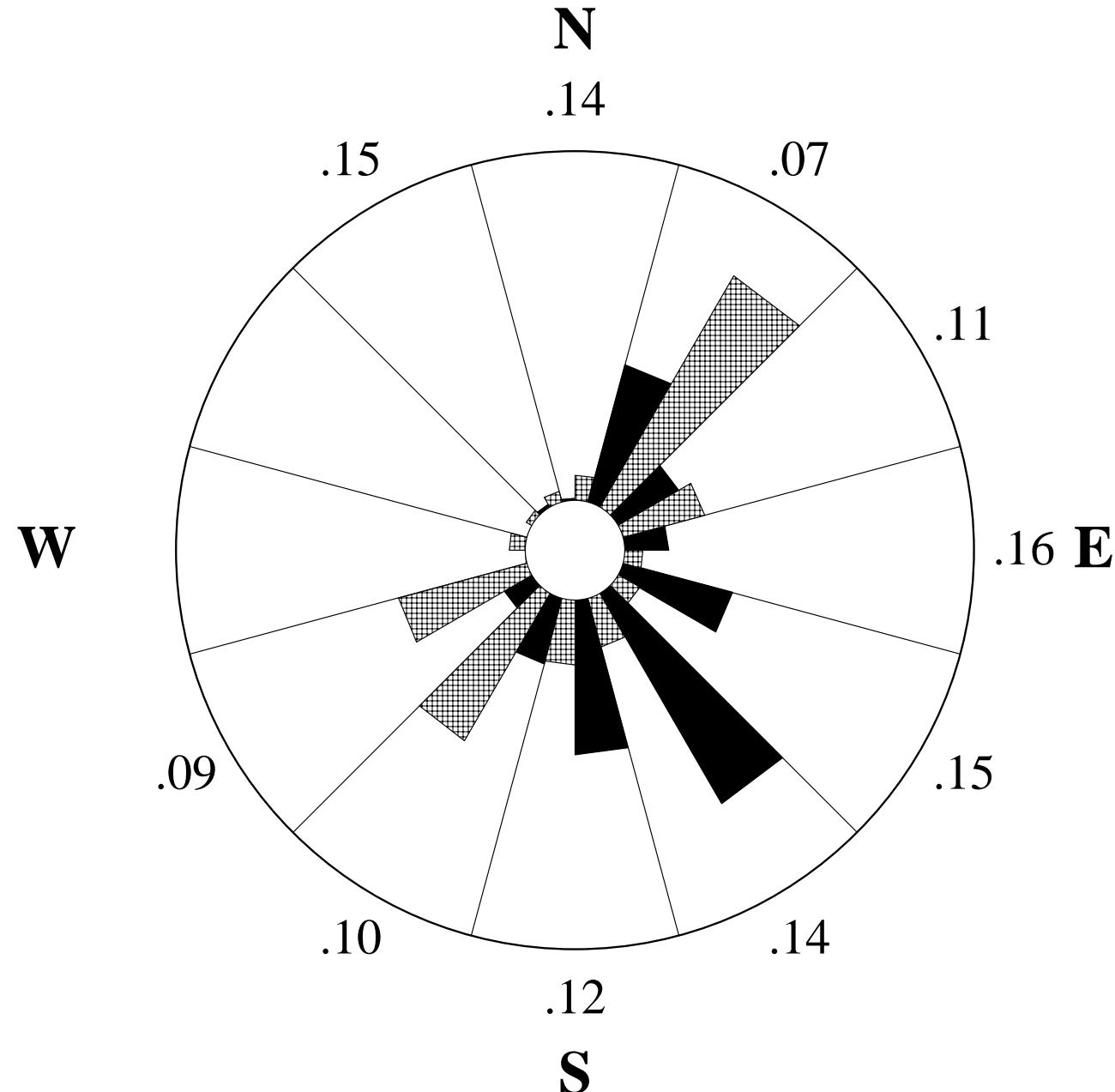
Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

juli 2007

Hourly Averages Graph Ch 5
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 4.6**



juli 2007

Wind Rose Ch 1,8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

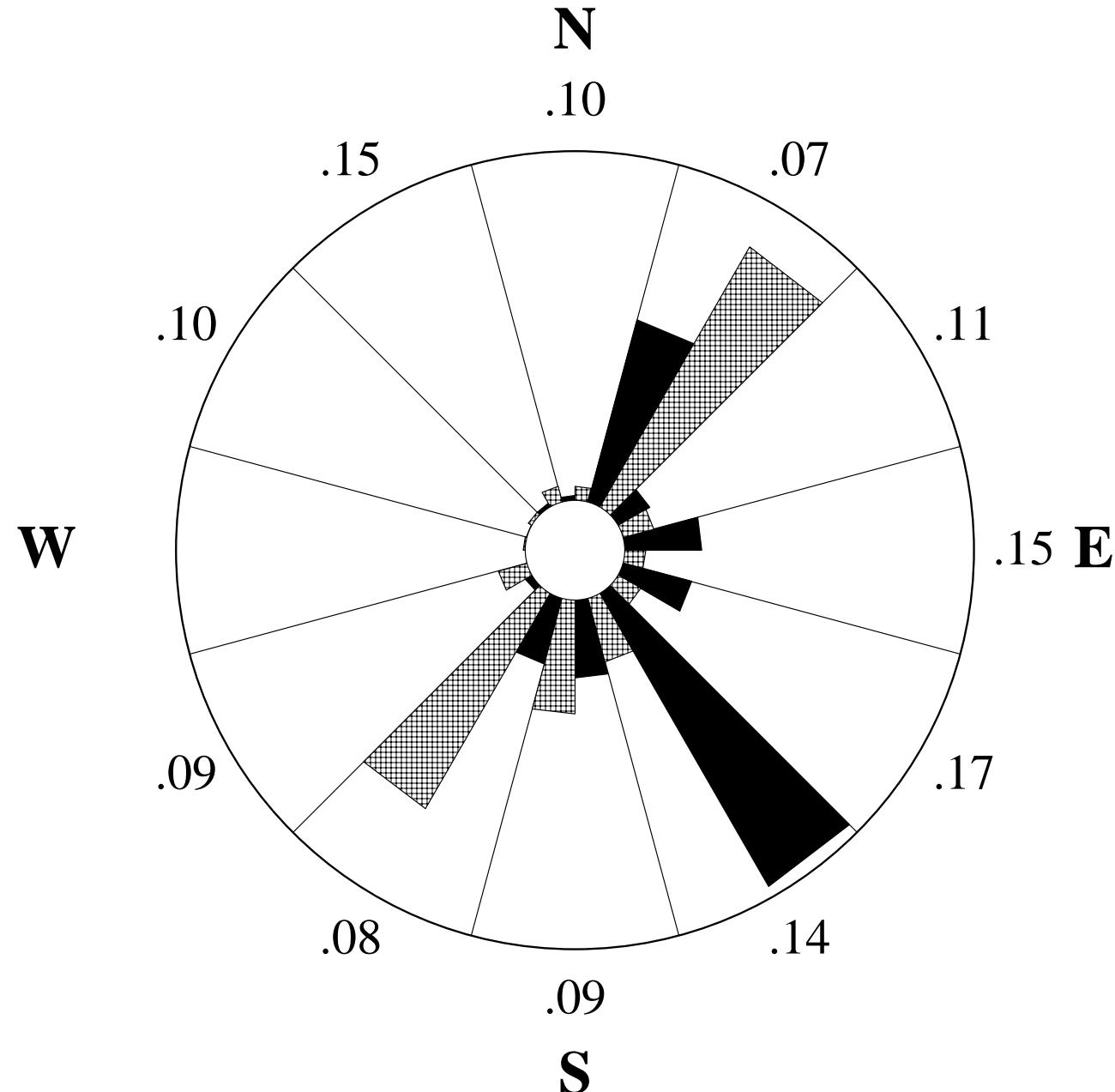
Outer Numbers are Average TIs
for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 40%

Percent of Total Wind Energy

Percent of Total Time



Site Information:

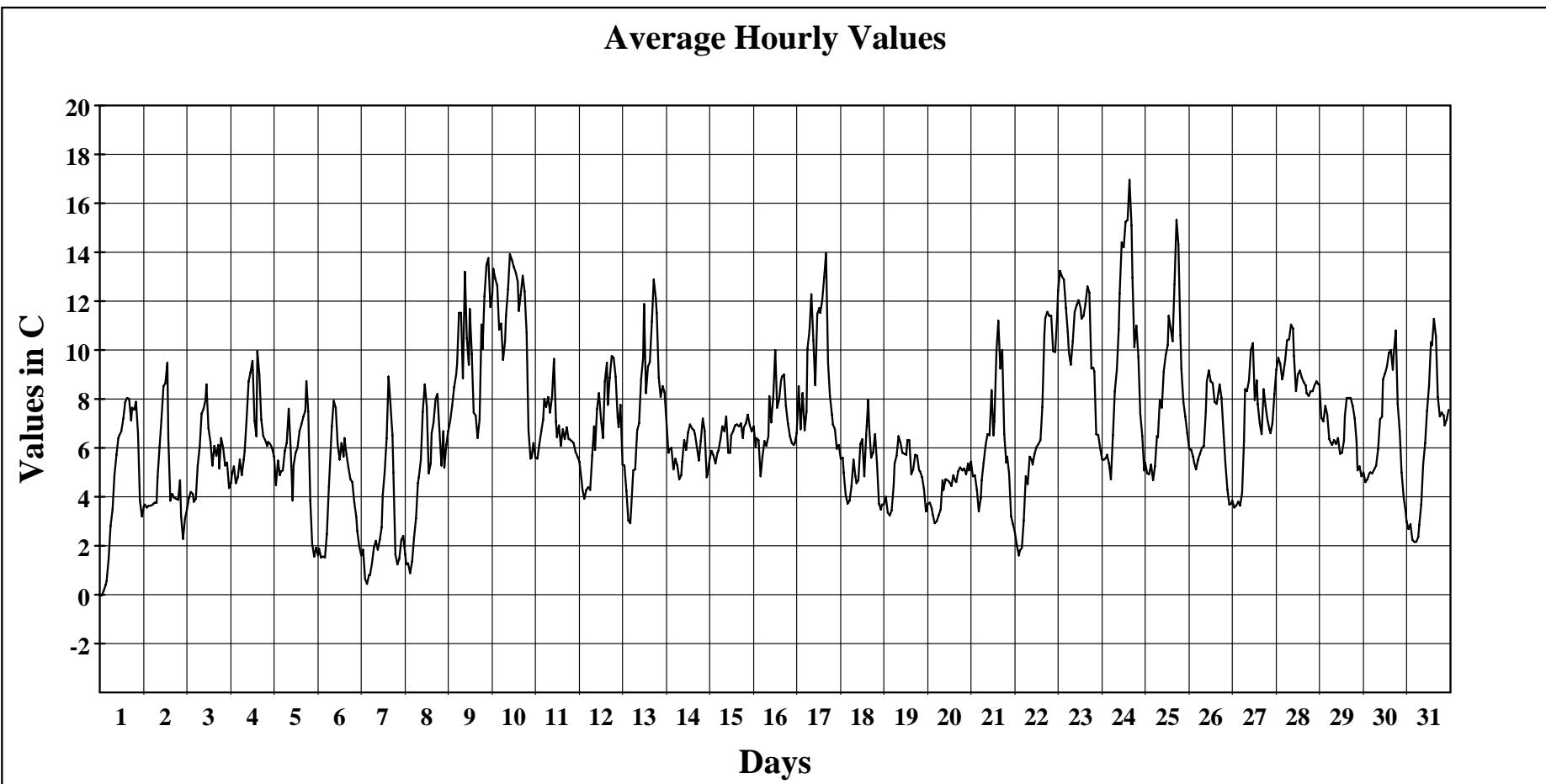
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

juli 2007

Hourly Averages Graph Ch 9
SITE 1601
Nanortalik



Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

august 2007**Summary Report**

SITE 1601

Nanortalik

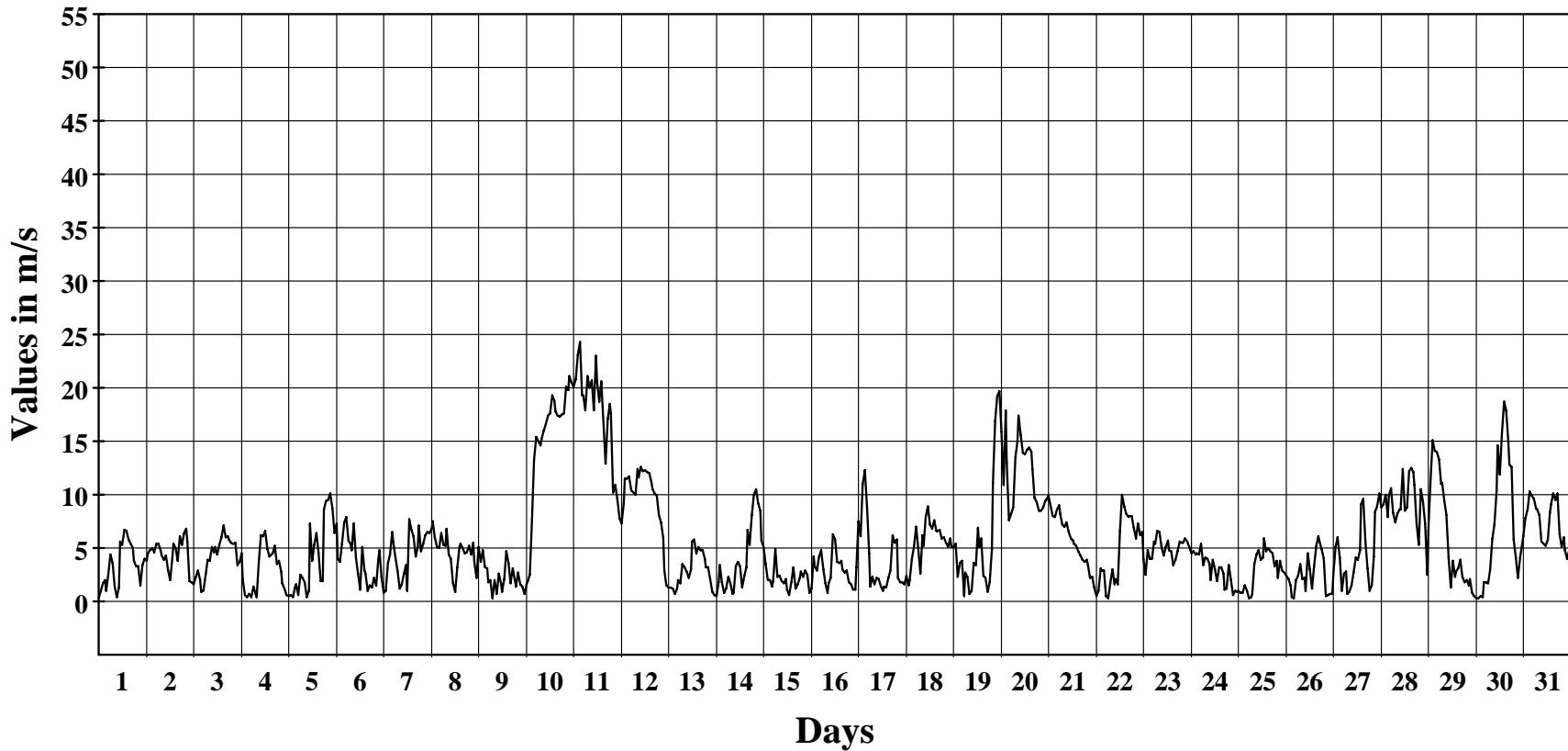
Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	5.62	5.67	5.04	5.87	6.41		140.53	142.86	8.17			13.69
Average for All Data	5.62	5.67	5.04	5.87	6.41		140.53	142.86	8.17			13.69
Min Interval Average	0.3	0.3	0.3	0.2	1				-0.5			13.1
Date of Min Interval	01.08.2007	01.08.2007	01.08.2007	01.08.2007	06.08.2007				04.08.2007			15.08.2007
Time of Min Interval	00:00:00	00:00:00	00:00:00	00:00:00	01:50:00				05:10:00			11:00:00
Max Interval Average	25.9	25	23.1	26.4	27.6				18.3			14.7
Date of Max Interval	11.08.2007	11.08.2007	11.08.2007	11.08.2007	11.08.2007				11.08.2007			18.08.2007
Time of Max Interval	12:00:00	11:40:00	12:00:00	12:00:00	12:00:00				13:20:00			11:20:00
Average Interval SD	0.8	0.8	0.88	0.8	0.79		5.01	11.87	0.06			0
Min Sample	0.3	0.3	0.3	0.2	1				-0.6			13
Date of Min Sample	06.08.2007	06.08.2007	06.08.2007	06.08.2007	06.08.2007				04.08.2007			06.08.2007
Time of Min Sample	01:40:00	01:40:00	01:40:00	01:40:00	01:40:00				05:00:00			11:00:00
Max Sample	37.5	35.8	35.9	38.5	38.7				19			15
Date of Max Sample	11.08.2007	11.08.2007	11.08.2007	11.08.2007	11.08.2007				11.08.2007			04.08.2007
Time of Max Sample	12:00:00	03:10:00	12:00:00	12:00:00	03:10:00				13:20:00			06:50:00
Average Interval TI	0.2	0.19	0.23	0.16	0.14							
Wind Speed Direction							SSW	NE				

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

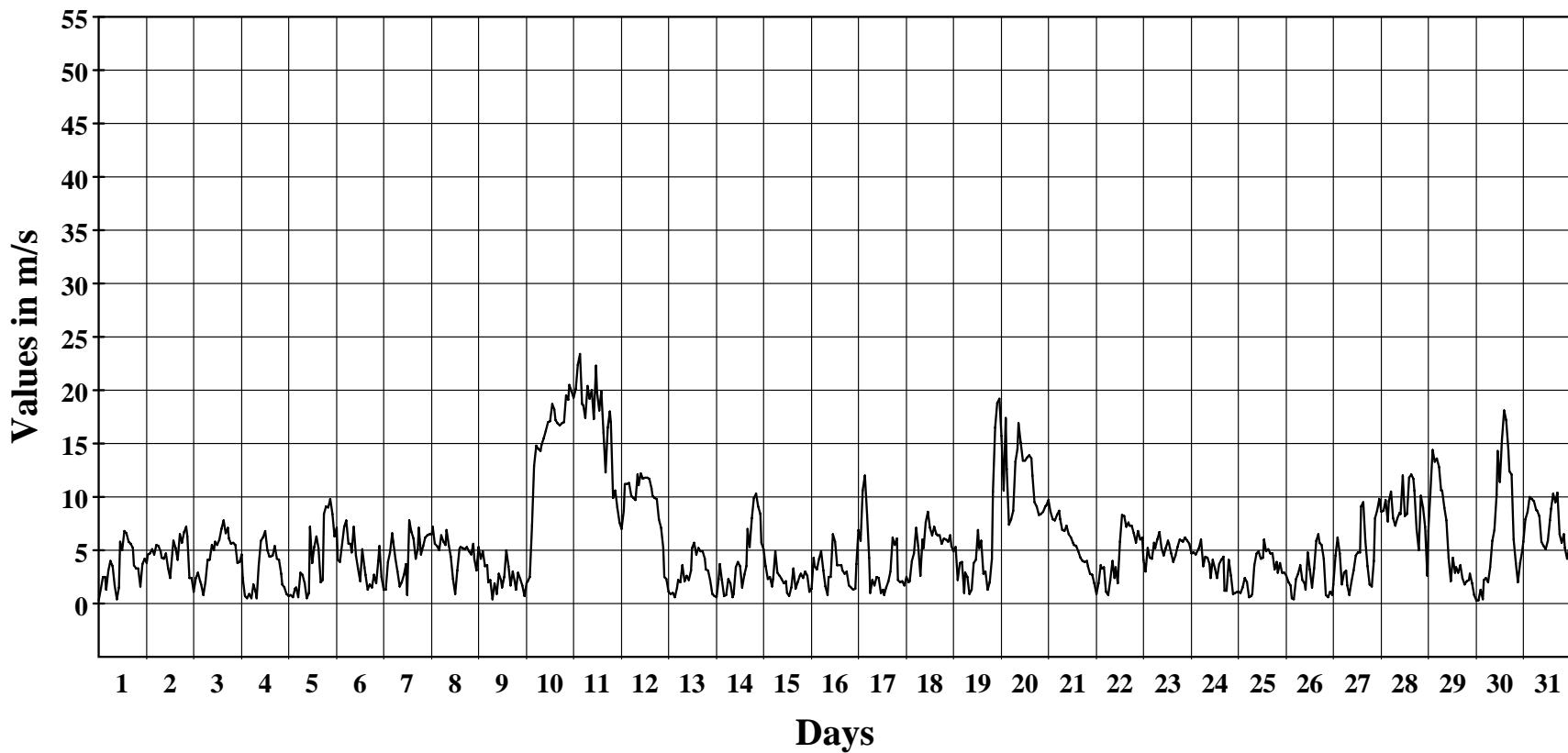
august 2007**Hourly Averages Graph Ch 1**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.6**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

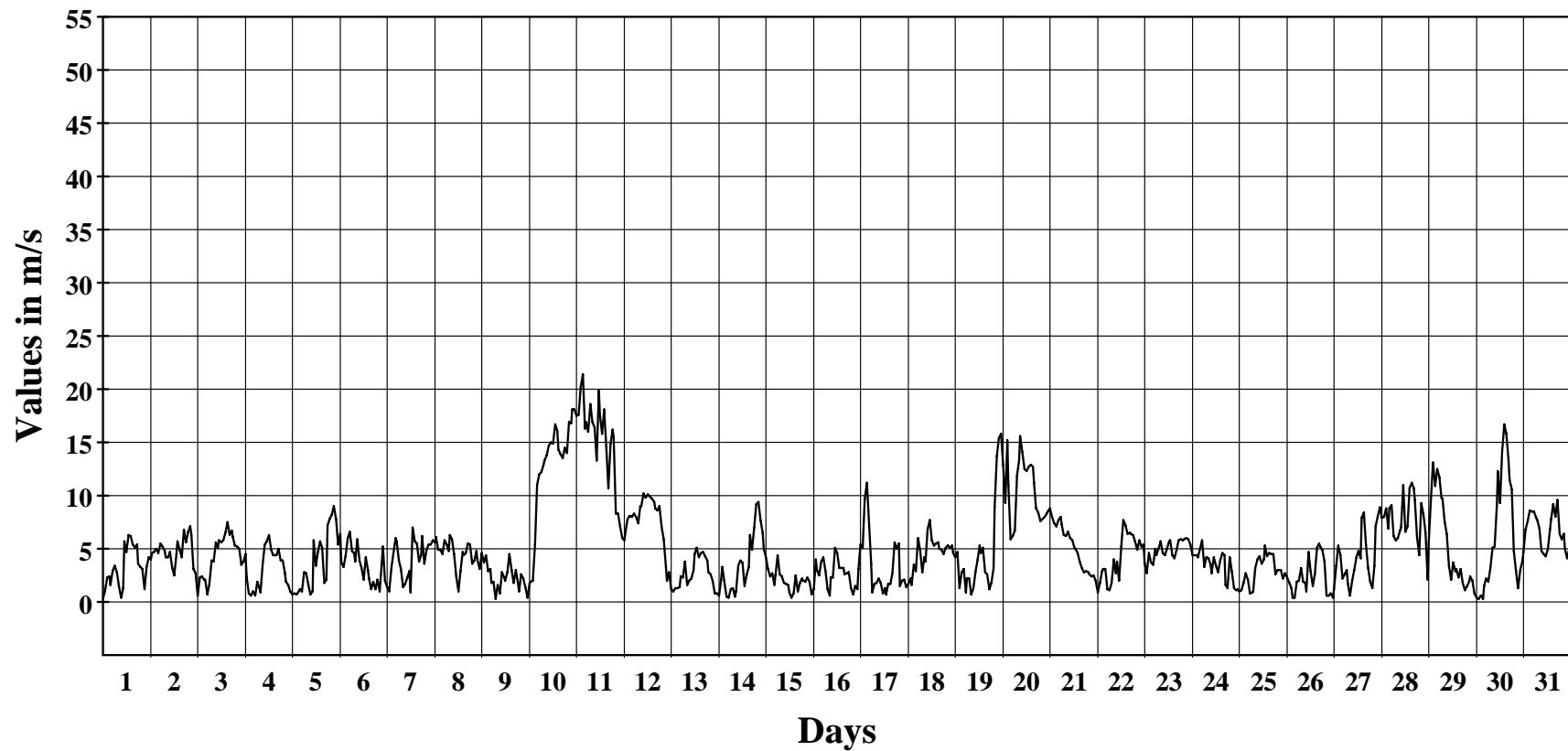
august 2007**Hourly Averages Graph Ch 2**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.7**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

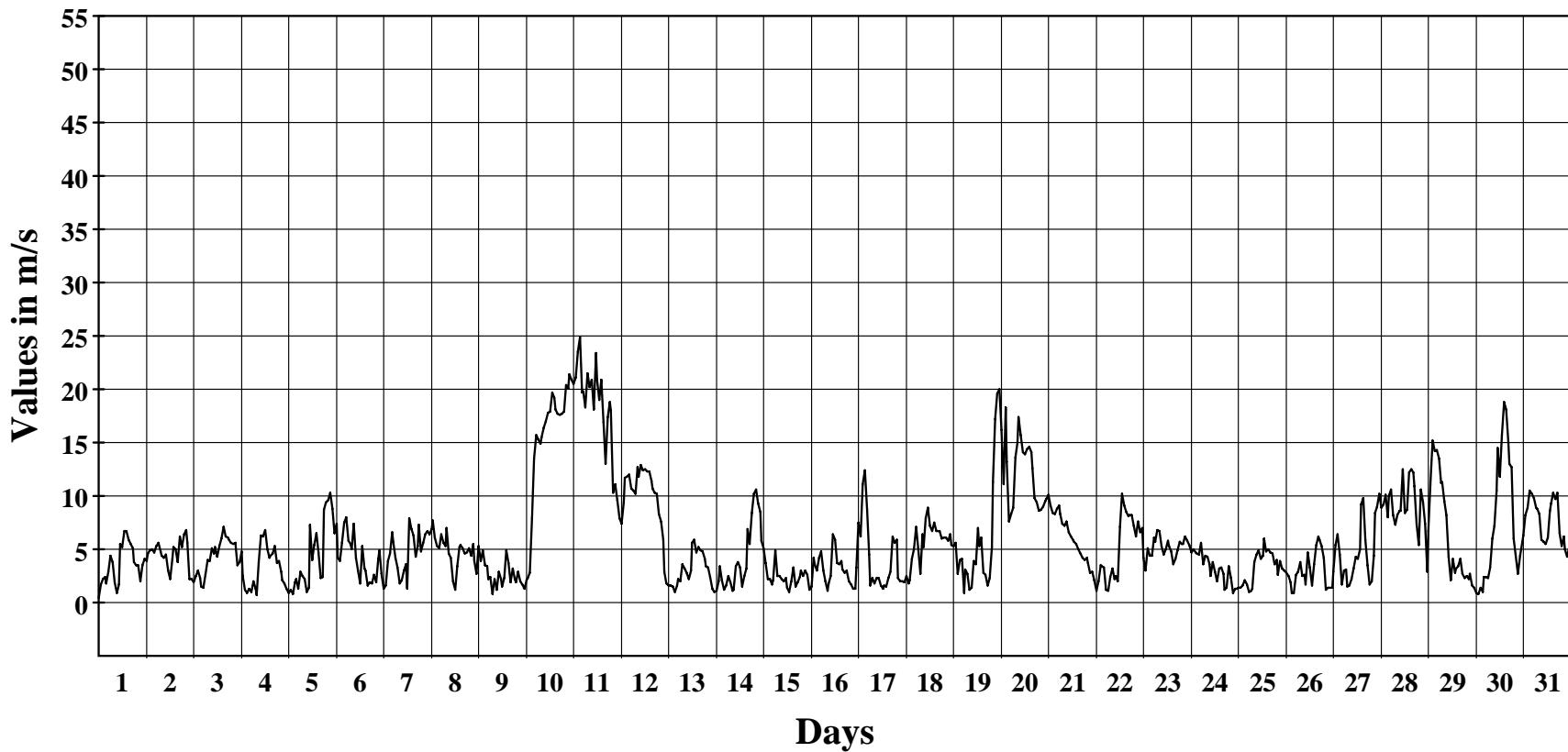
august 2007**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.0**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

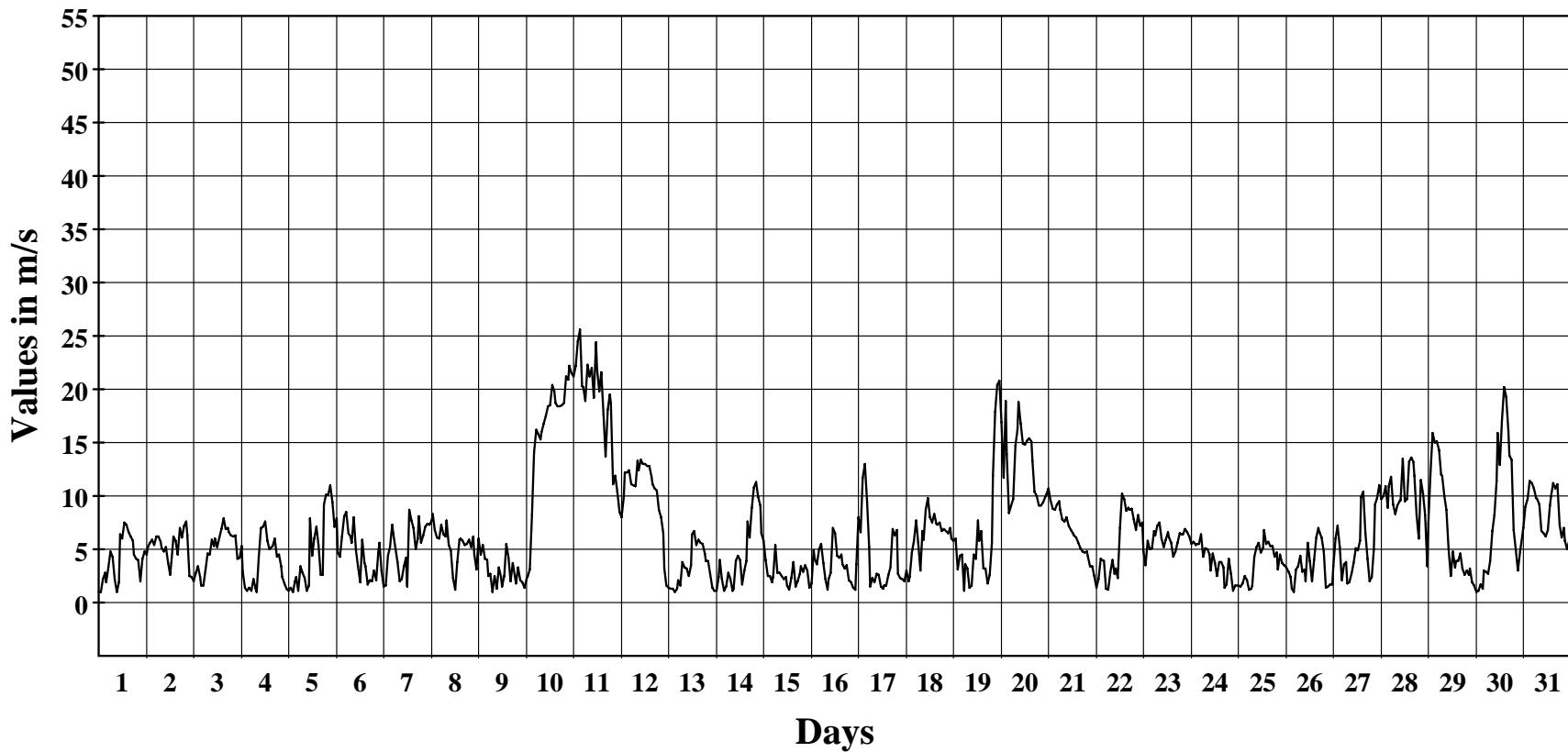
august 2007**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.9**

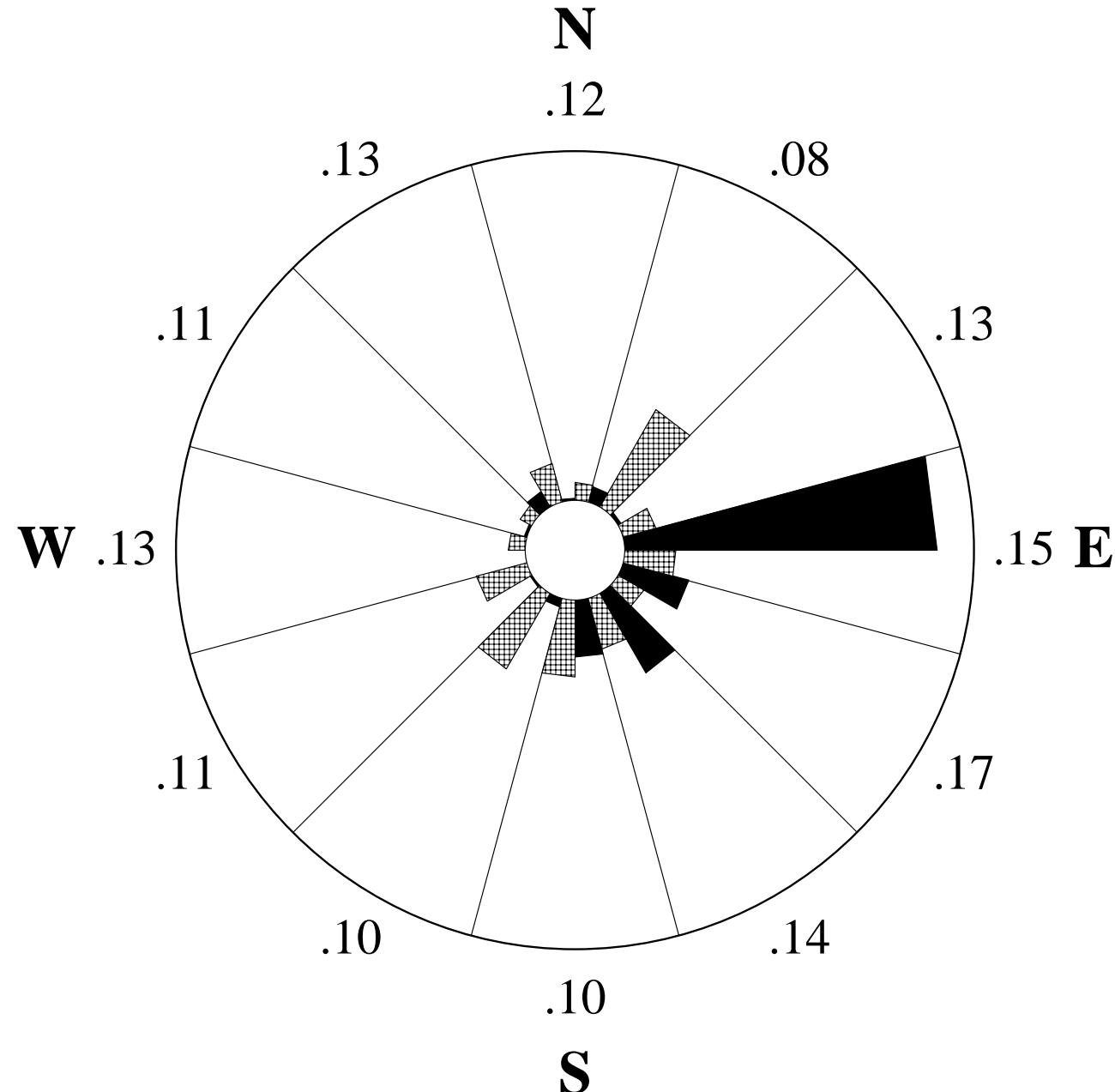
Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

august 2007**Hourly Averages Graph Ch 5**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.4**



august 2007

Wind Rose Ch 1,8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

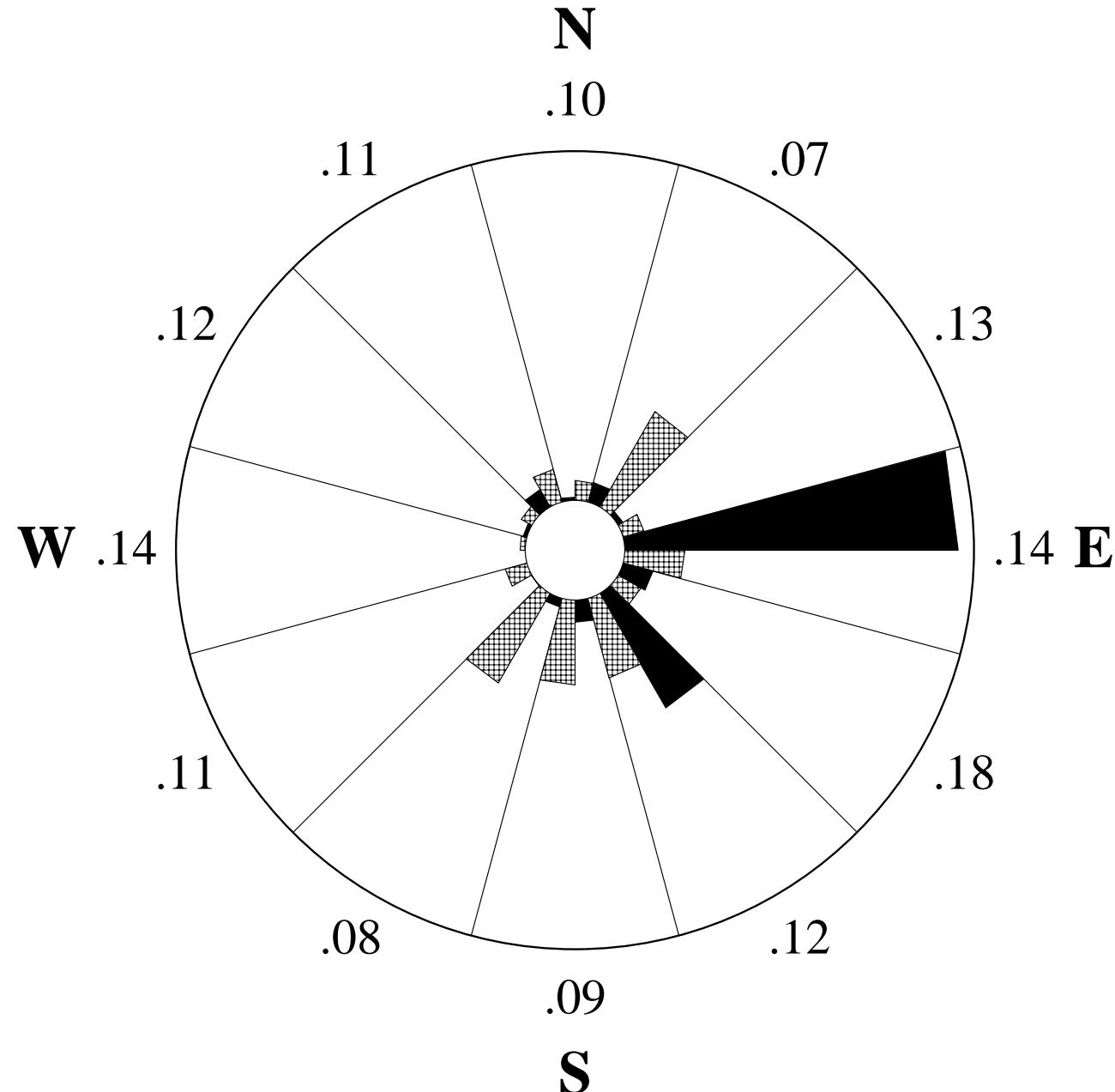
Outer Numbers are Average TIs for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 60%

Percent of Total Wind Energy

Percent of Total Time



august 2007

Wind Rose Ch 5,7

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 5:

NRG IceFreeIII 47m

Height: 47.5 m

Serial #: SN:12642

Vane on channel 7:

NRG IceFree III 47m

Height: 47.2m

Serial #: SN:30309

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

Inner Circle = 0%

Outer Circle = 60%

Percent of Total Wind Energy

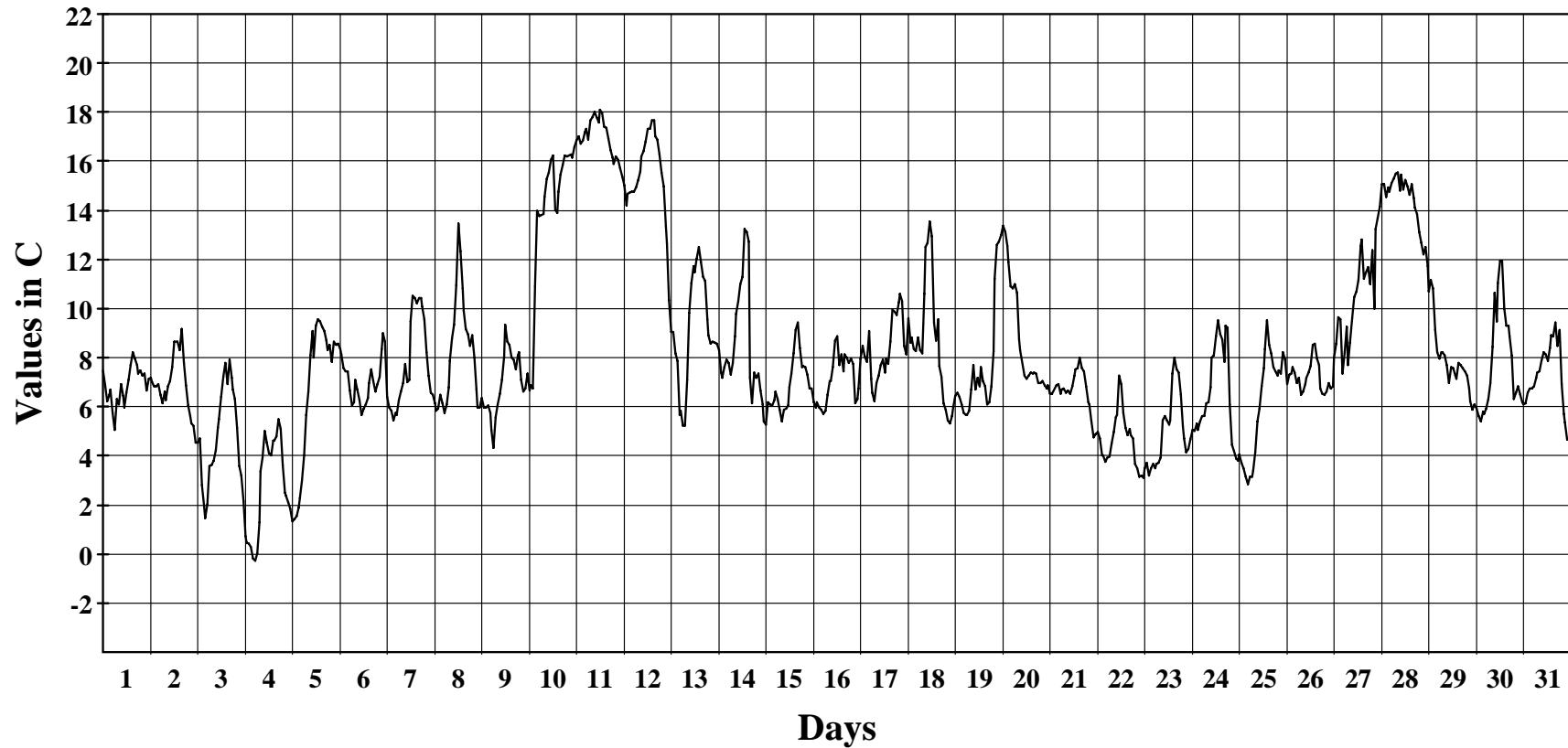
Percent of Total Time

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

august 2007**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 8.2**

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

september 2007**Summary Report**

SITE 1601

Nanortalik

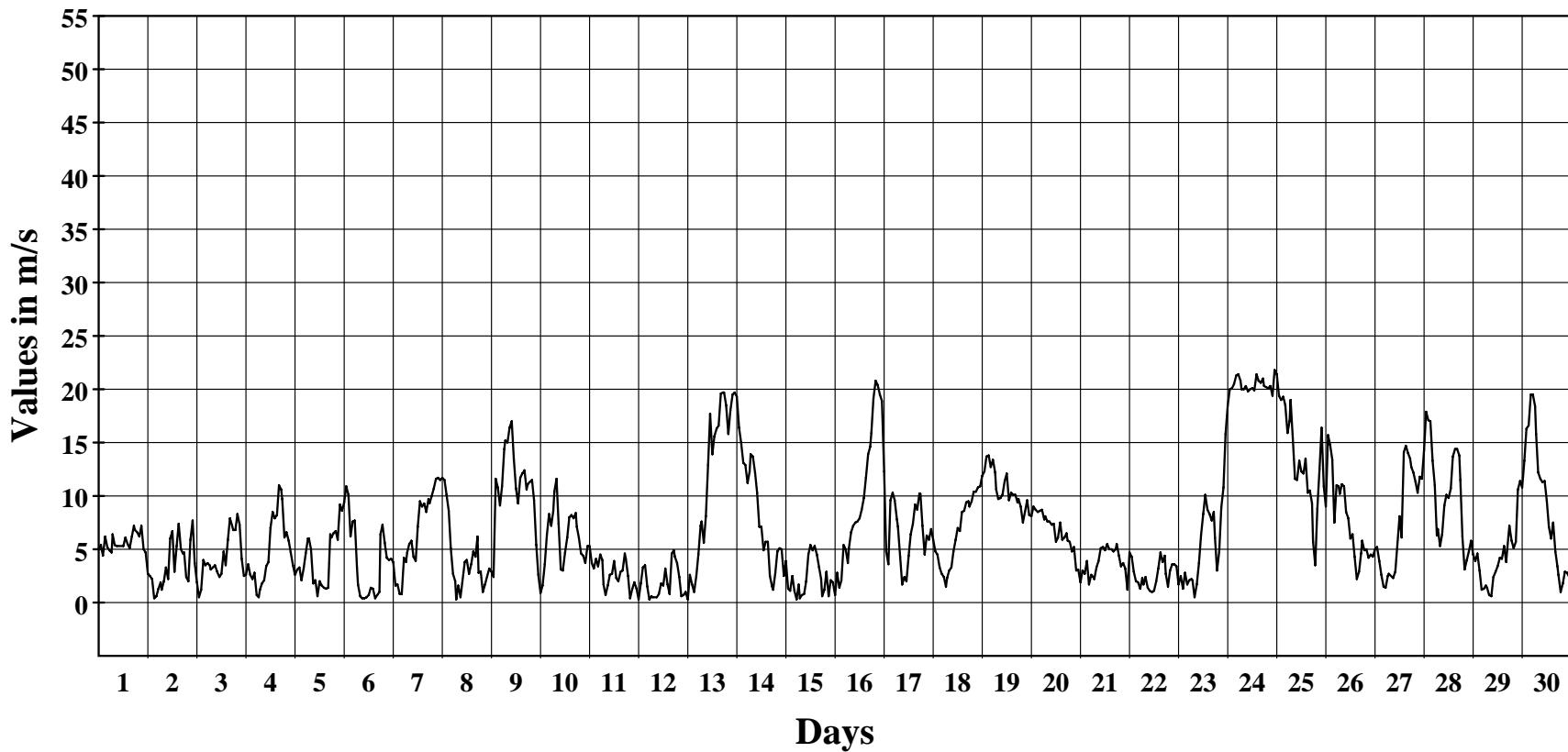
Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4320	4320	4320	4320	4320		4320	4320	4320			4320
Average Filtered Data	6.9	6.86	6.09	7.17	7.89		39.21	44.54	5.83			13.64
Average for All Data	6.9	6.86	6.09	7.17	7.89		39.21	44.54	5.83			13.64
Min Interval Average	0.3	0.3	0.3	0.3	1				-0.2			13.2
Date of Min Interval	02.09.2007	02.09.2007	02.09.2007	15.09.2007	02.09.2007				23.09.2007			05.09.2007
Time of Min Interval	03:00:00	03:00:00	03:00:00	09:50:00	03:00:00				07:10:00			11:00:00
Max Interval Average	22.8	22.1	20	23.2	24.5				14.4			15.1
Date of Max Interval	24.09.2007	24.09.2007	24.09.2007	24.09.2007	24.09.2007				25.09.2007			15.09.2007
Time of Max Interval	14:20:00	23:40:00	23:40:00	14:20:00	14:20:00				11:00:00			08:10:00
Average Interval SD	0.97	0.96	1.04	0.99	0.97		5.8	11.03	0.04			0
Min Sample	0.3	0.3	0.3	0.2	1				-0.4			13
Date of Min Sample	02.09.2007	02.09.2007	02.09.2007	02.09.2007	02.09.2007				23.09.2007			05.09.2007
Time of Min Sample	13:10:00	13:30:00	13:20:00	19:50:00	13:40:00				07:10:00			11:00:00
Max Sample	30.7	29.7	29.4	31.6	34.5				14.8			15.2
Date of Max Sample	16.09.2007	13.09.2007	13.09.2007	13.09.2007	13.09.2007				25.09.2007			22.09.2007
Time of Max Sample	20:10:00	16:20:00	15:40:00	16:10:00	16:20:00				10:50:00			07:50:00
Average Interval TI	0.19	0.18	0.21	0.16	0.13							
Wind Speed Direction							NN	NNW				

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

september 2007**Hourly Averages Graph Ch 1**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.9**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

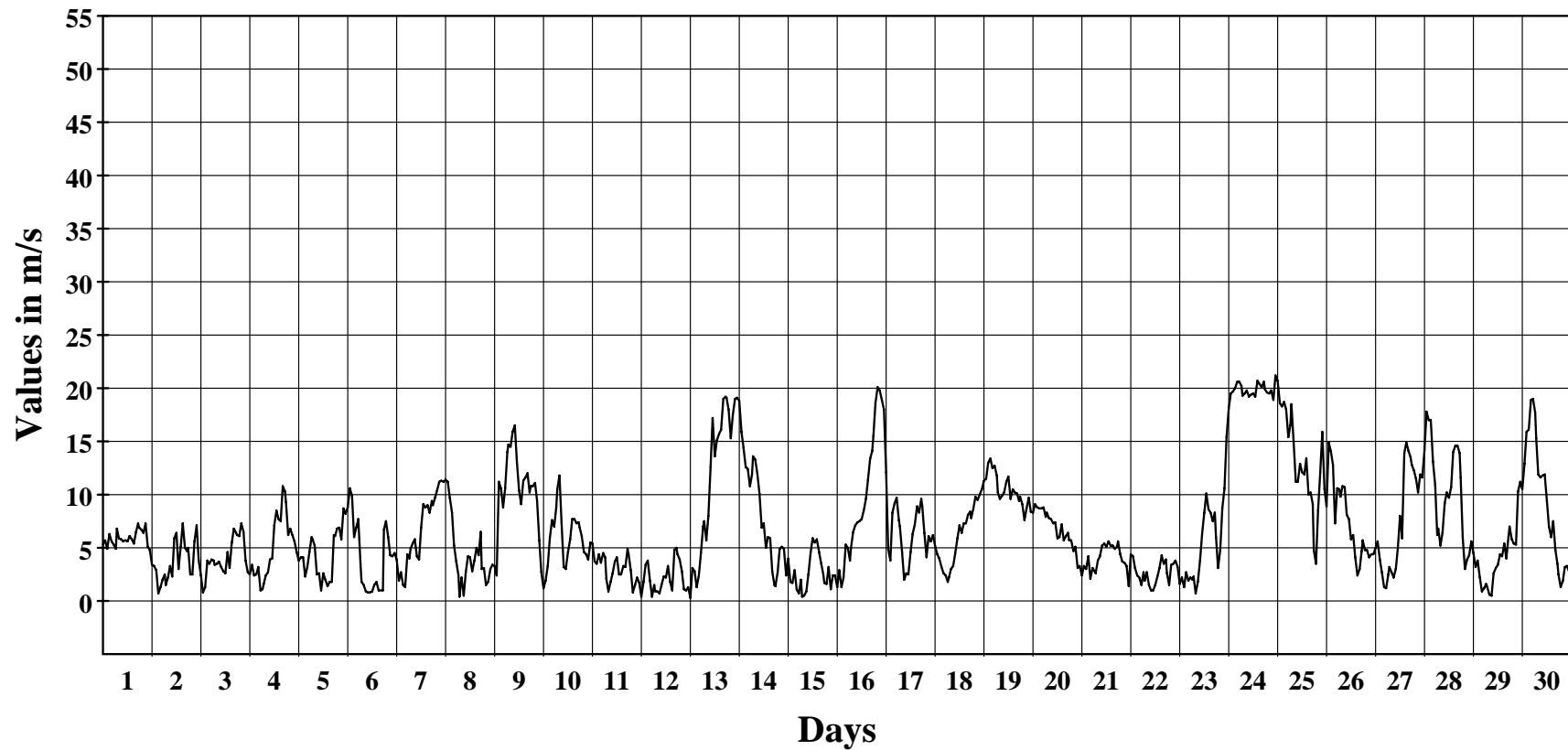
Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

september 2007**Hourly Averages Graph Ch 2**

SITE 1601

Nanortalik

Average Hourly Values**Average Value: 6.9**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

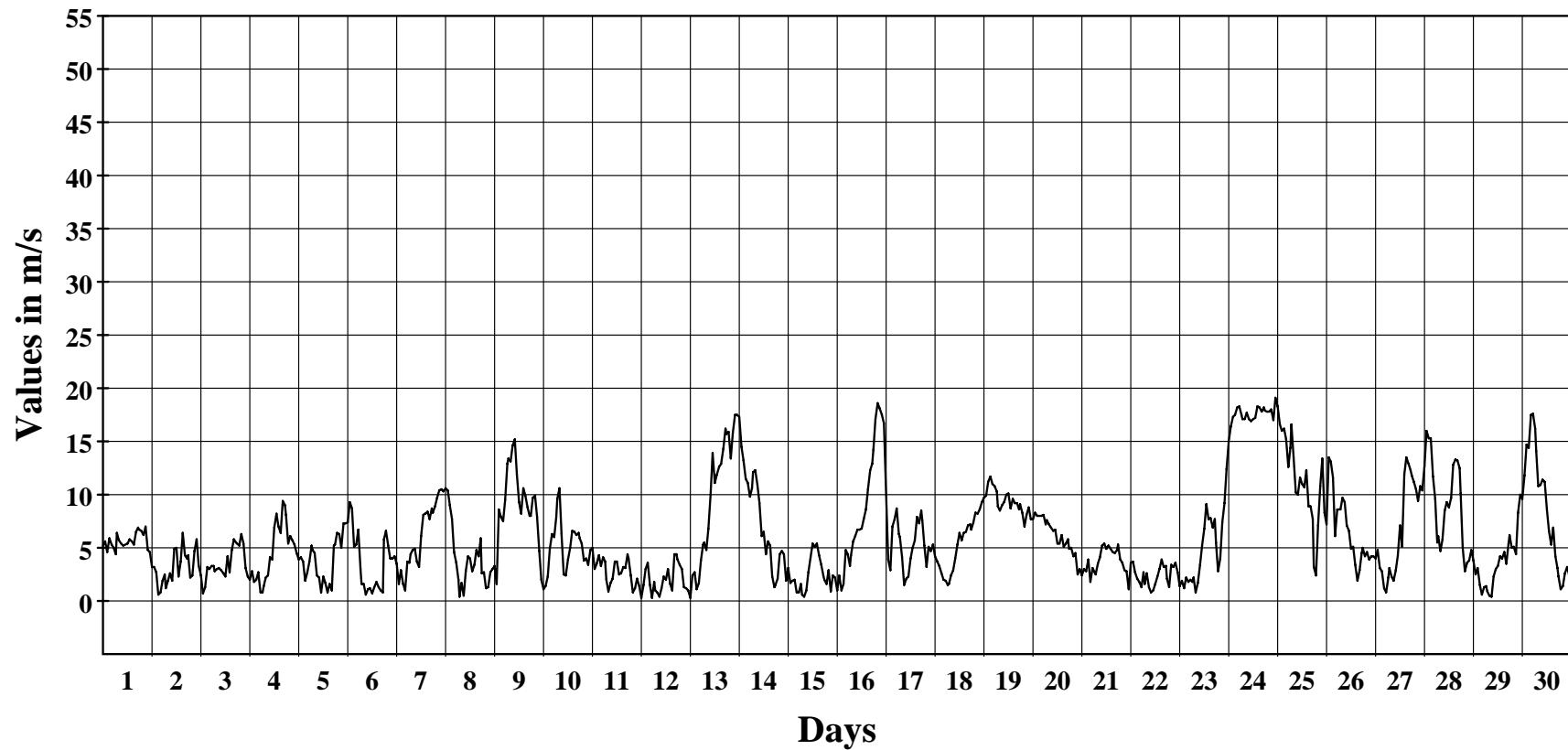
Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

september 2007**Hourly Averages Graph Ch 3**

SITE 1601

Nanortalik

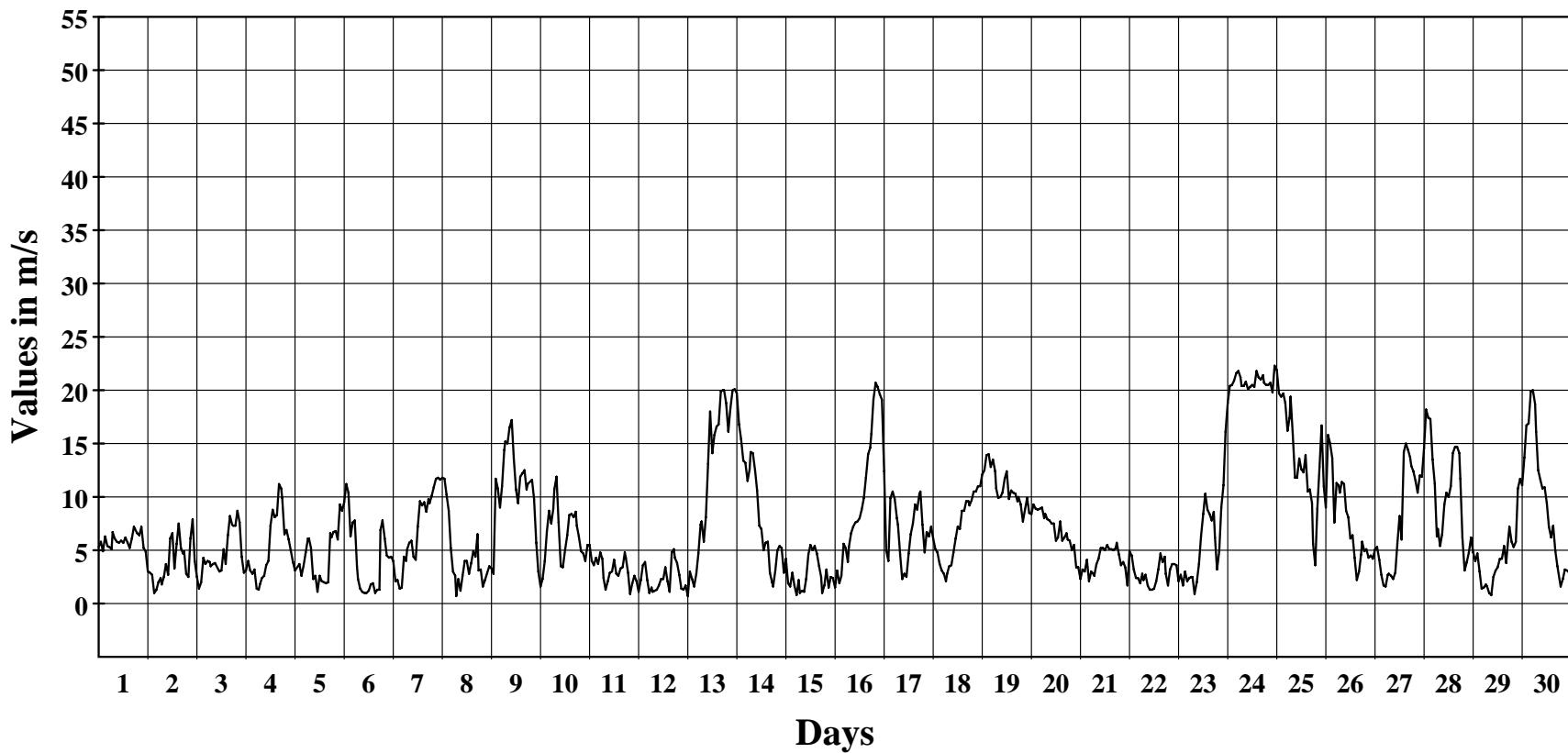
Average Hourly Values**Average Value: 6.1**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

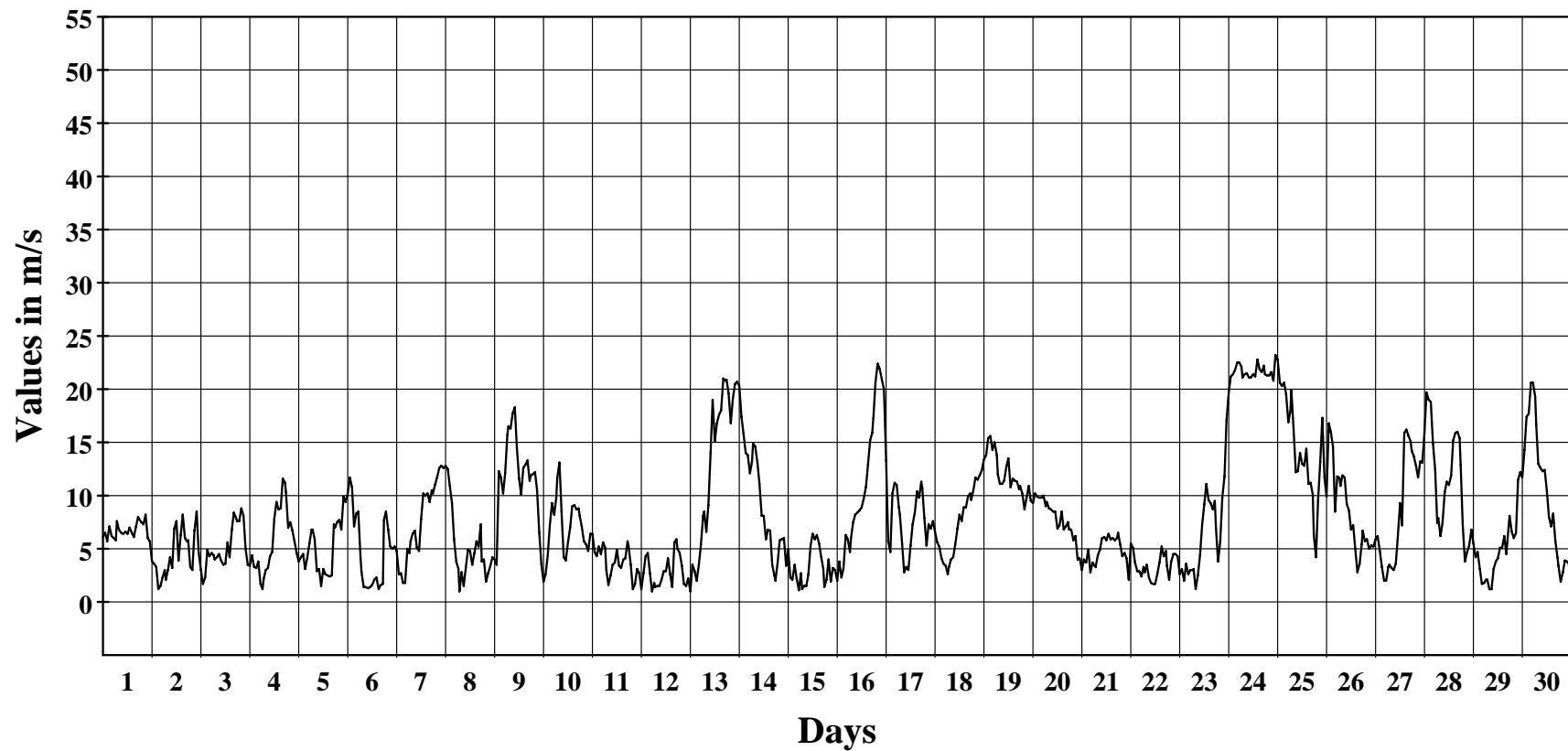
september 2007**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.2**

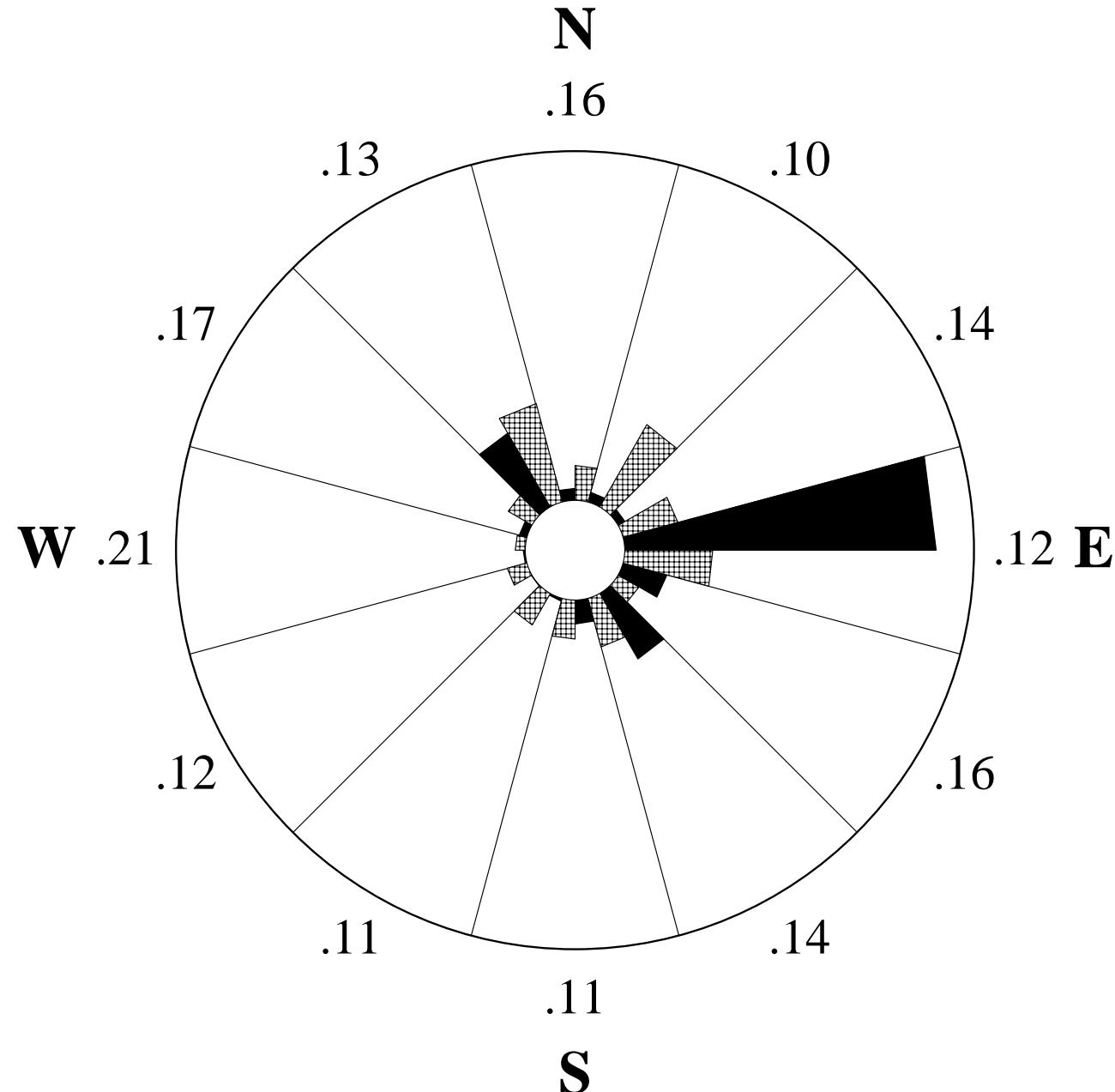
Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

september 2007**Hourly Averages Graph Ch 5**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.9**



september 2007

Wind Rose Ch 1,8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

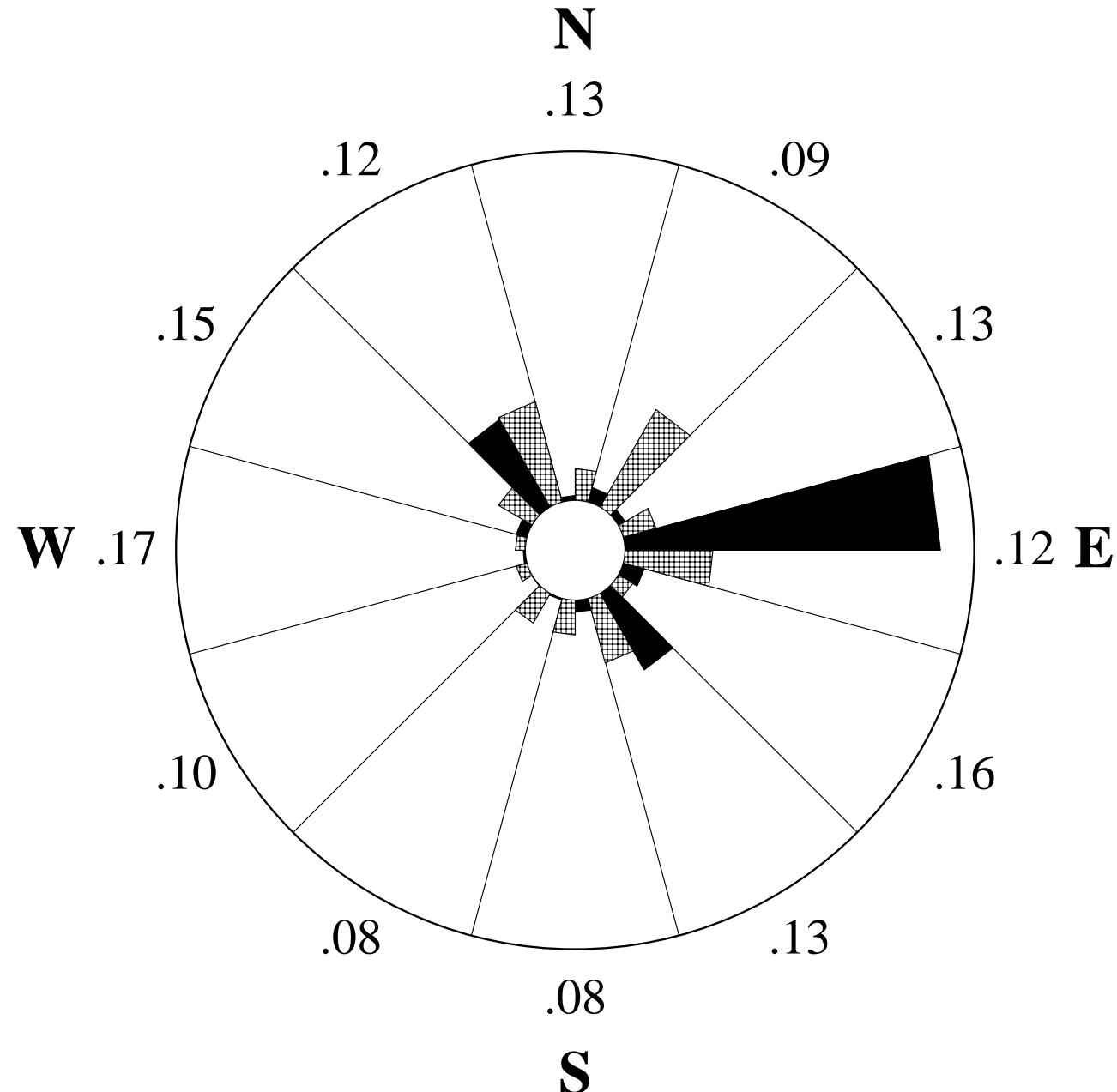
Outer Numbers are Average TIs
for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 60%

Percent of Total Wind Energy

Percent of Total Time

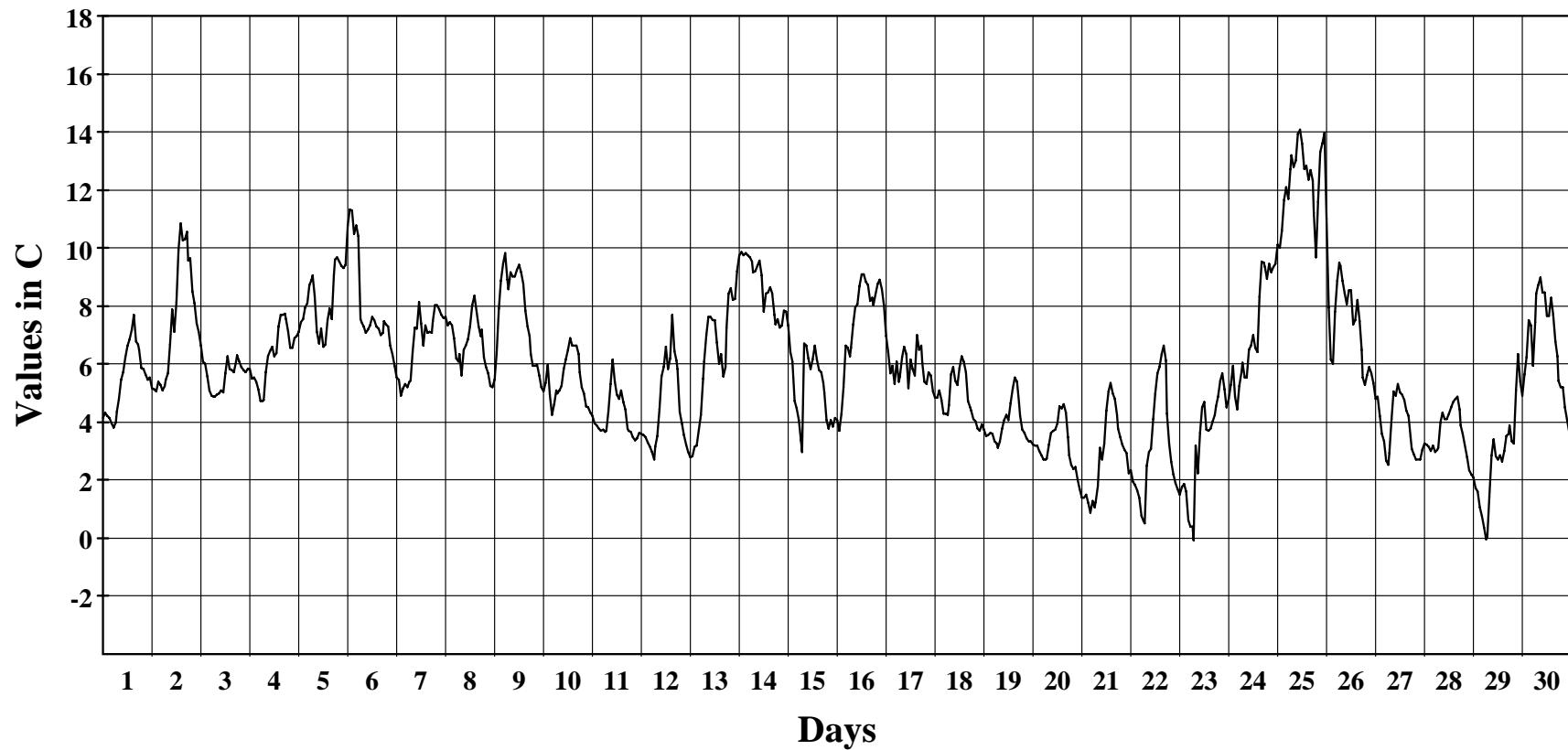


Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

september 2007**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.8**

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

oktober 2007**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	6.5	6.46	5.76	6.63	7.46		18.34	22.71	3.22			13.68
Average for All Data	6.5	6.46	5.76	6.63	7.46		18.34	22.71	3.22			13.68
Min Interval Average	0.3	0.3	0.3	0.2	1				-4.9			13.1
Date of Min Interval	01.10.2007	01.10.2007	01.10.2007	01.10.2007	01.10.2007				31.10.2007			21.10.2007
Time of Min Interval	00:40:00	01:30:00	00:30:00	01:40:00	01:20:00				08:20:00			11:00:00
Max Interval Average	22.6	22.5	21.2	23.1	24.8				15.5			15.1
Date of Max Interval	25.10.2007	09.10.2007	09.10.2007	25.10.2007	25.10.2007				07.10.2007			01.10.2007
Time of Max Interval	16:40:00	15:40:00	15:40:00	16:40:00	16:40:00				11:20:00			08:10:00
Average Interval SD	0.92	0.92	0.97	0.95	0.91		6.01	10.92	0.05			0.01
Min Sample	0.3	0.3	0.3	0.2	1				-4.9			12.9
Date of Min Sample	01.10.2007	01.10.2007	01.10.2007	01.10.2007	01.10.2007				31.10.2007			21.10.2007
Time of Min Sample	00:20:00	00:30:00	00:20:00	00:40:00	00:30:00				08:10:00			11:00:00
Max Sample	30.3	30.1	28.3	30.7	33.9				15.9			15.2
Date of Max Sample	25.10.2007	25.10.2007	25.10.2007	25.10.2007	25.10.2007				07.10.2007			04.10.2007
Time of Max Sample	16:10:00	16:10:00	15:20:00	16:10:00	15:00:00				11:30:00			08:10:00
Average Interval TI	0.17	0.17	0.2	0.16	0.13							
Wind Speed Direction							NN	NE				

Site Information:

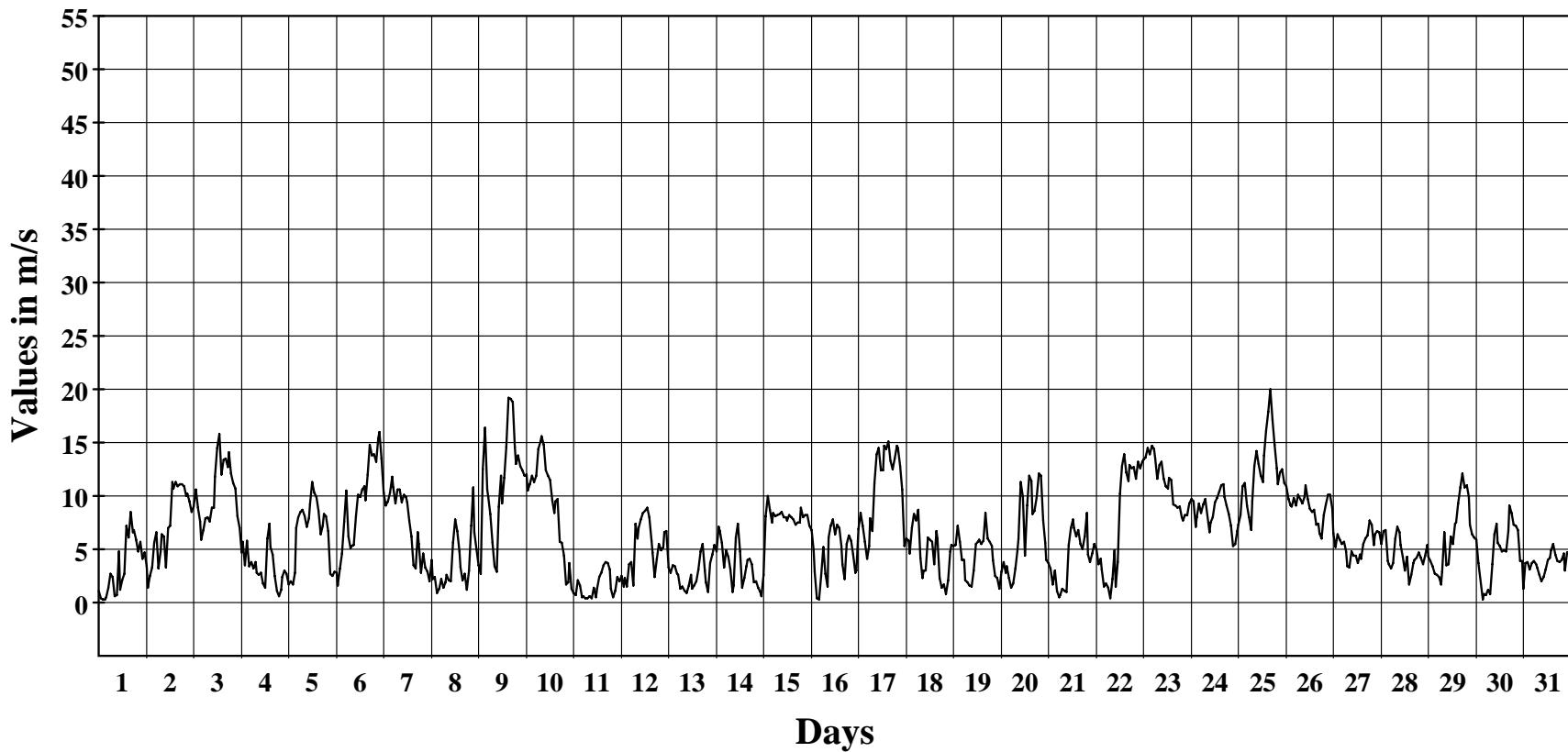
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

oktober 2007

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

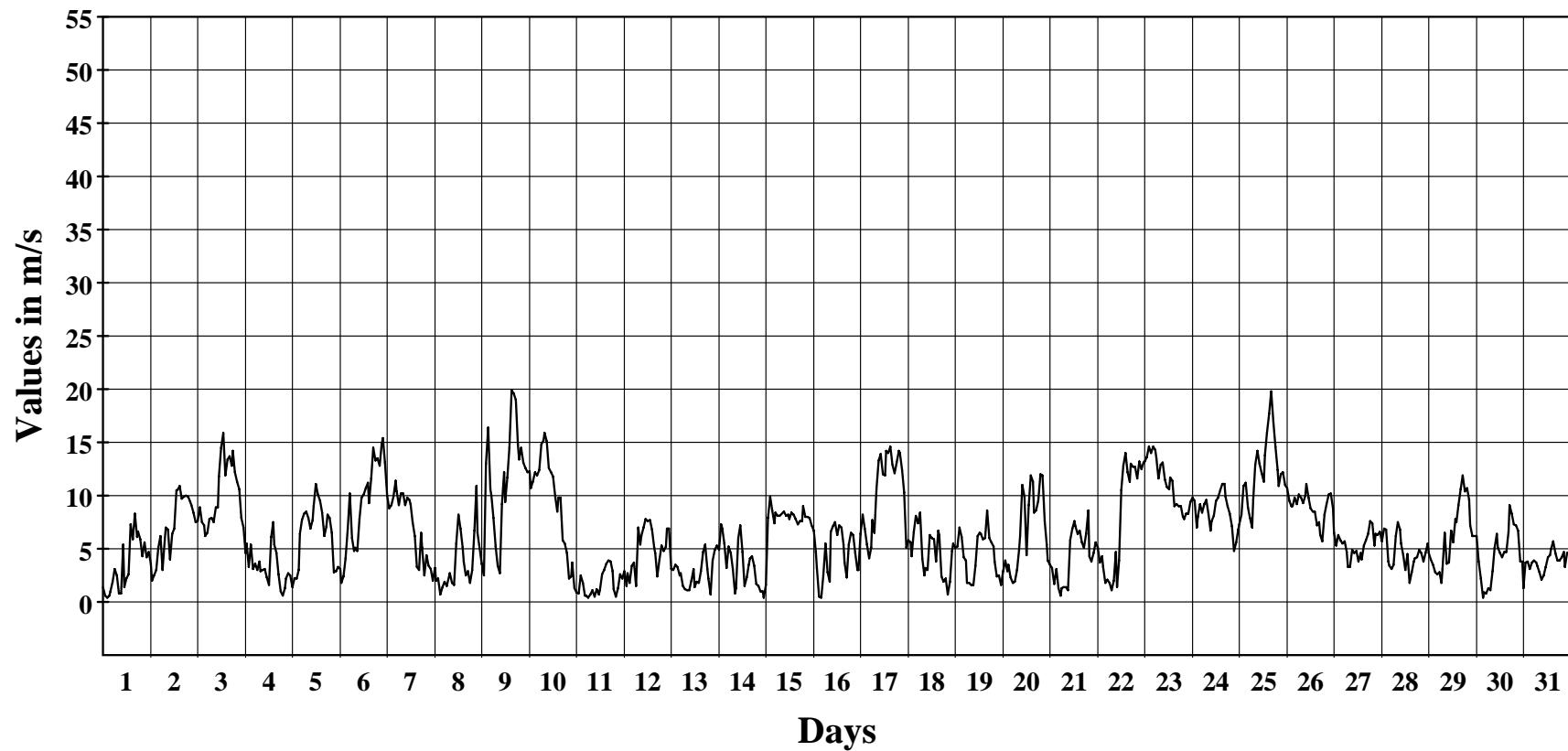
Average Hourly Values**Average Value: 6.5**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

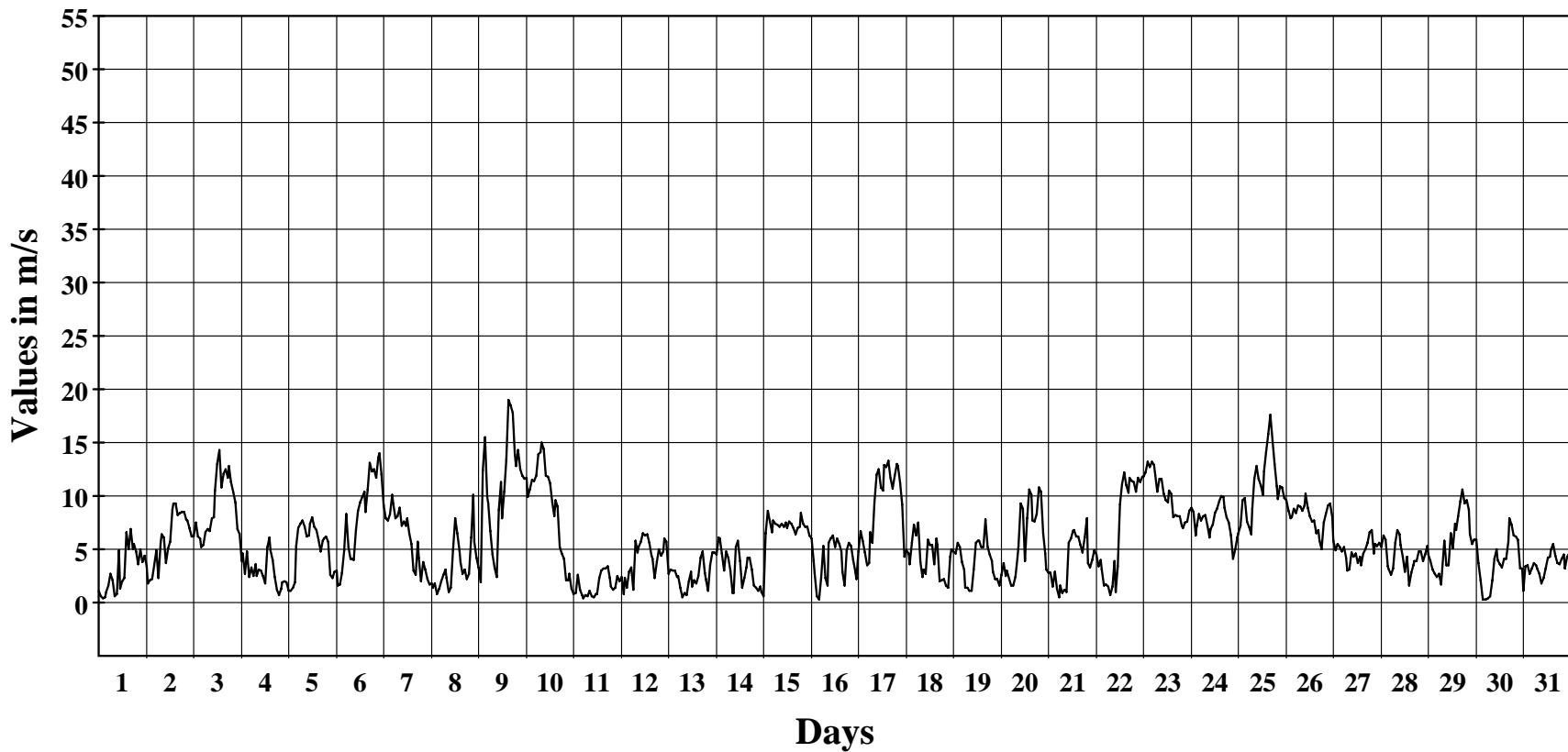
oktober 2007**Hourly Averages Graph Ch 2**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.5**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

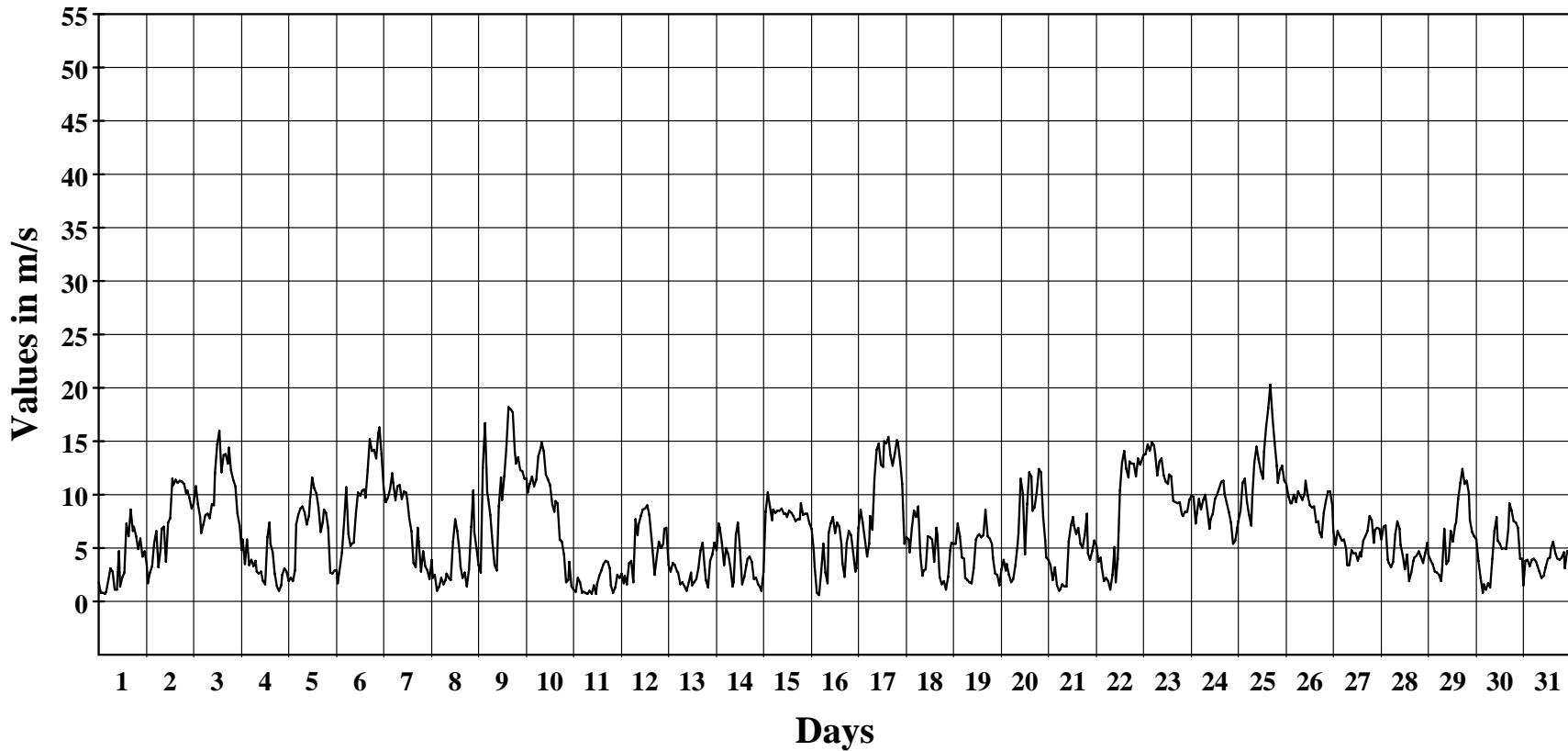
oktober 2007**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.8**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

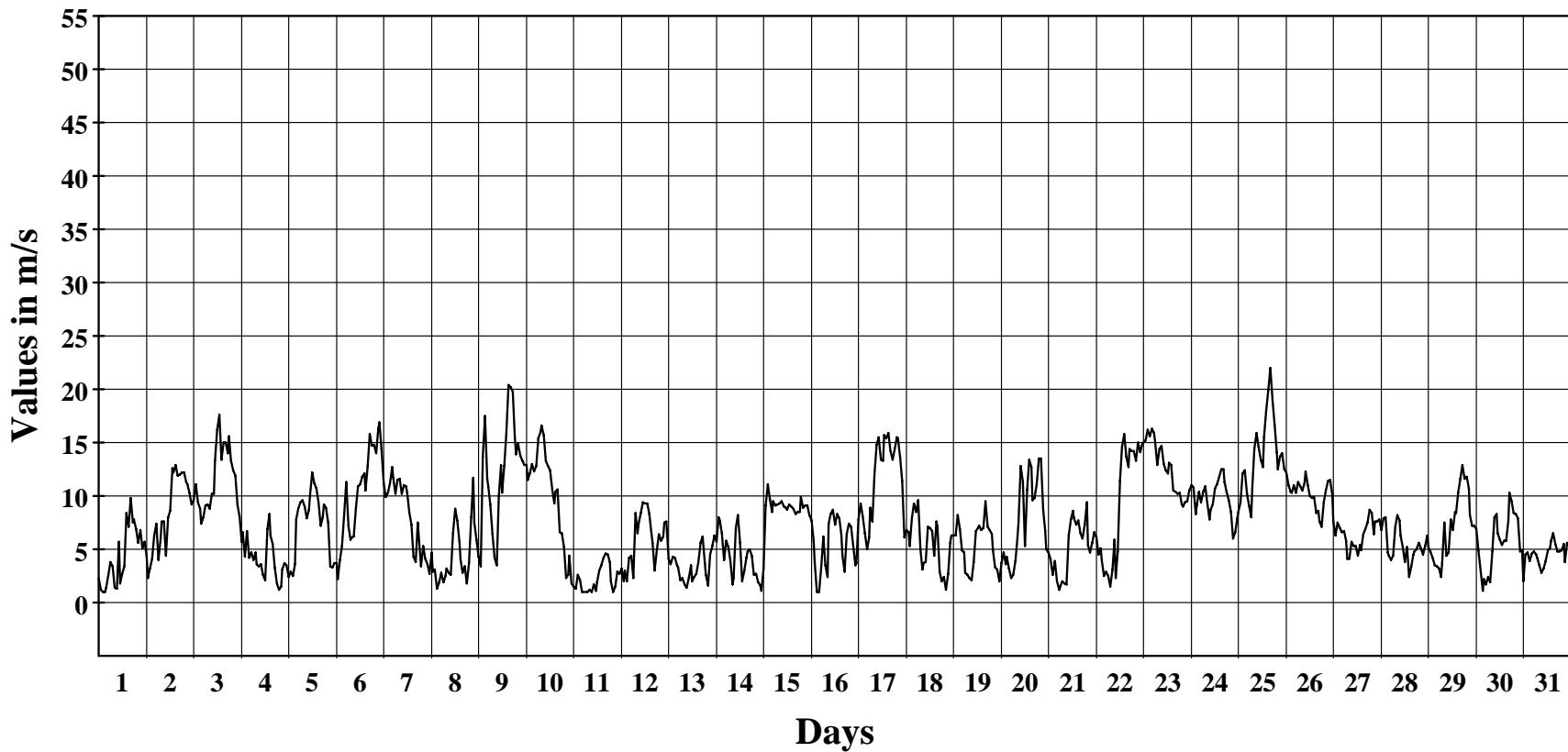
oktober 2007**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.6**

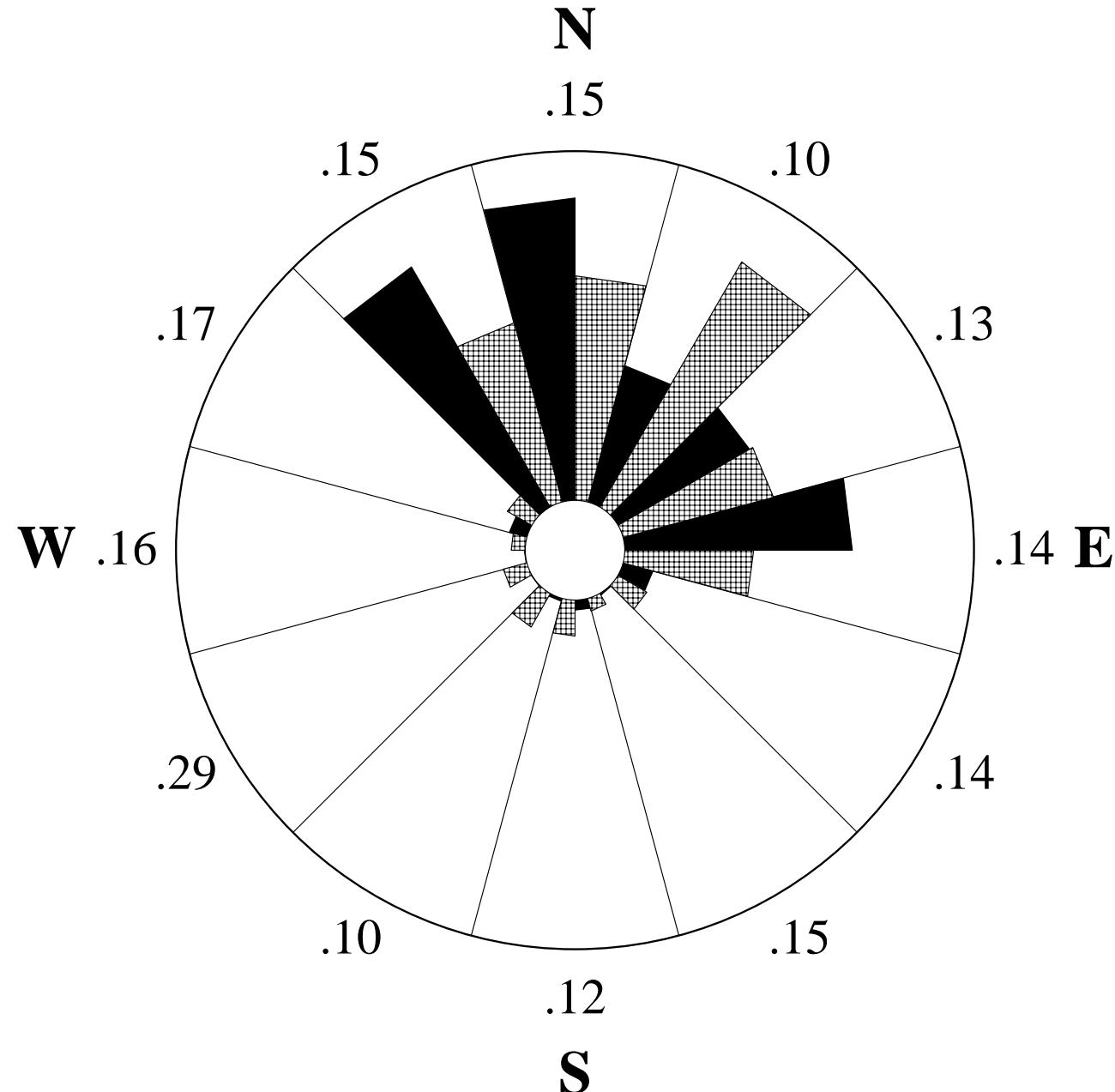
Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

oktober 2007**Hourly Averages Graph Ch 5**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.5**



oktober 2007

Wind Rose Ch 1,8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

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

Inner Circle = 0%

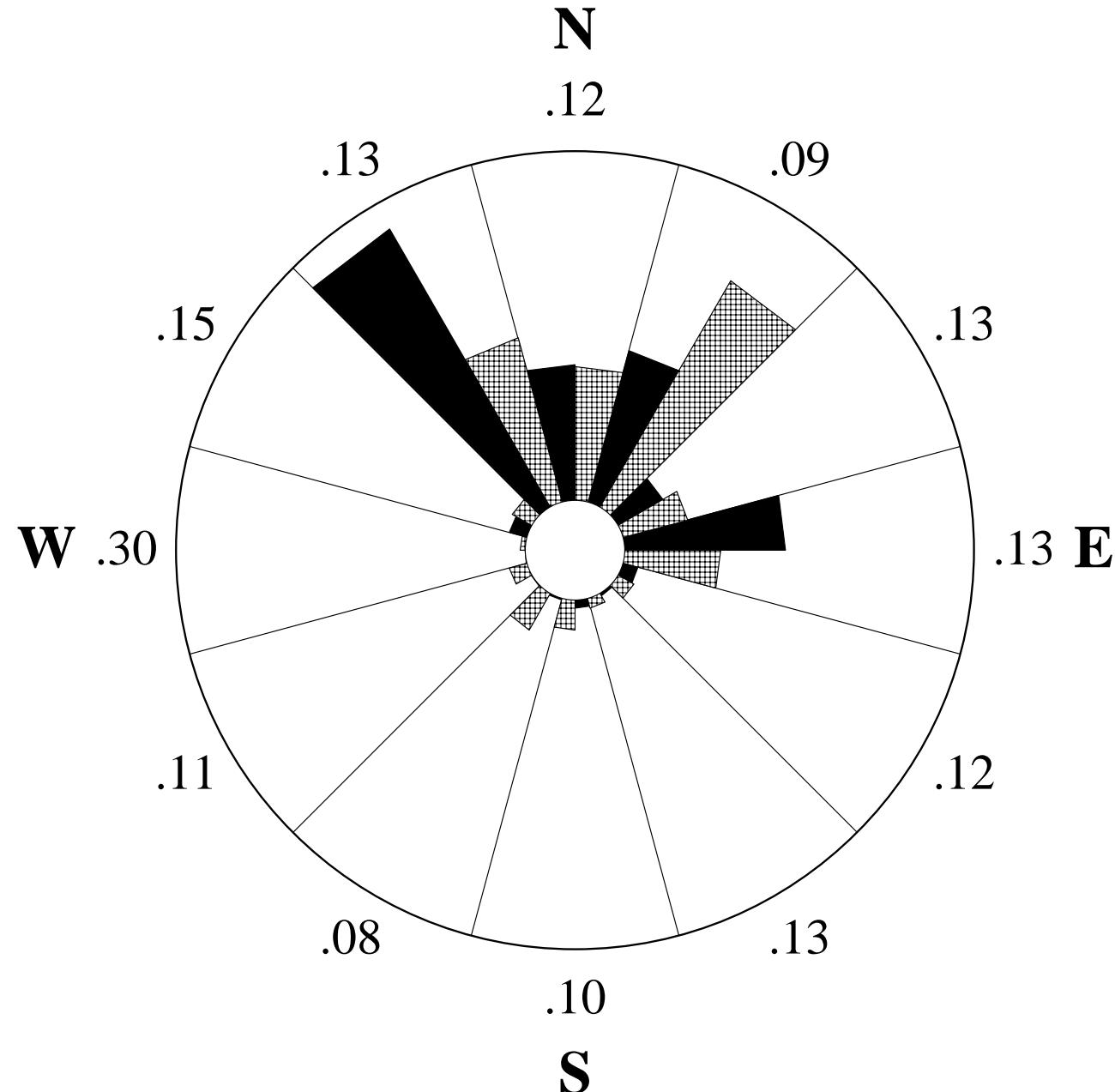
Outer Circle = 30%



Percent of Total Wind Energy



Percent of Total Time



oktober 2007

Wind Rose Ch 5,7

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønland

Elevation:

Anemometer on channel 5:

NRG IceFreeIII 47m

Height: 47.5 m

Serial #: SN:12642

Vane on channel 7:

NRG IceFree III 47m

Height: 47.2m

Serial #: SN:30309

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

Inner Circle = 0%

Outer Circle = 40%

Percent of Total Wind Energy

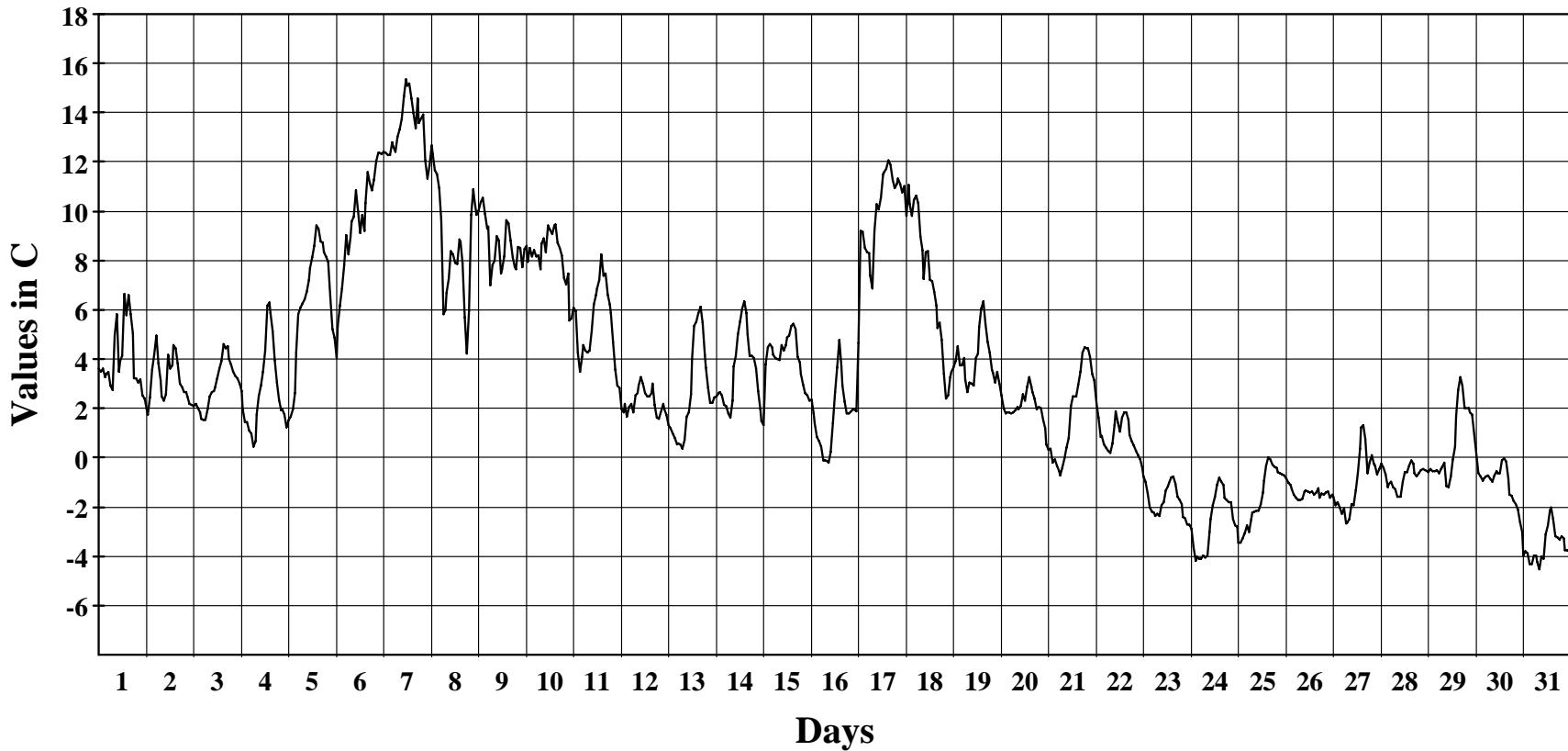
Percent of Total Time

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

oktober 2007**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 3.2**

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

november 2007**Summary Report**

SITE 1601

Nanortalik

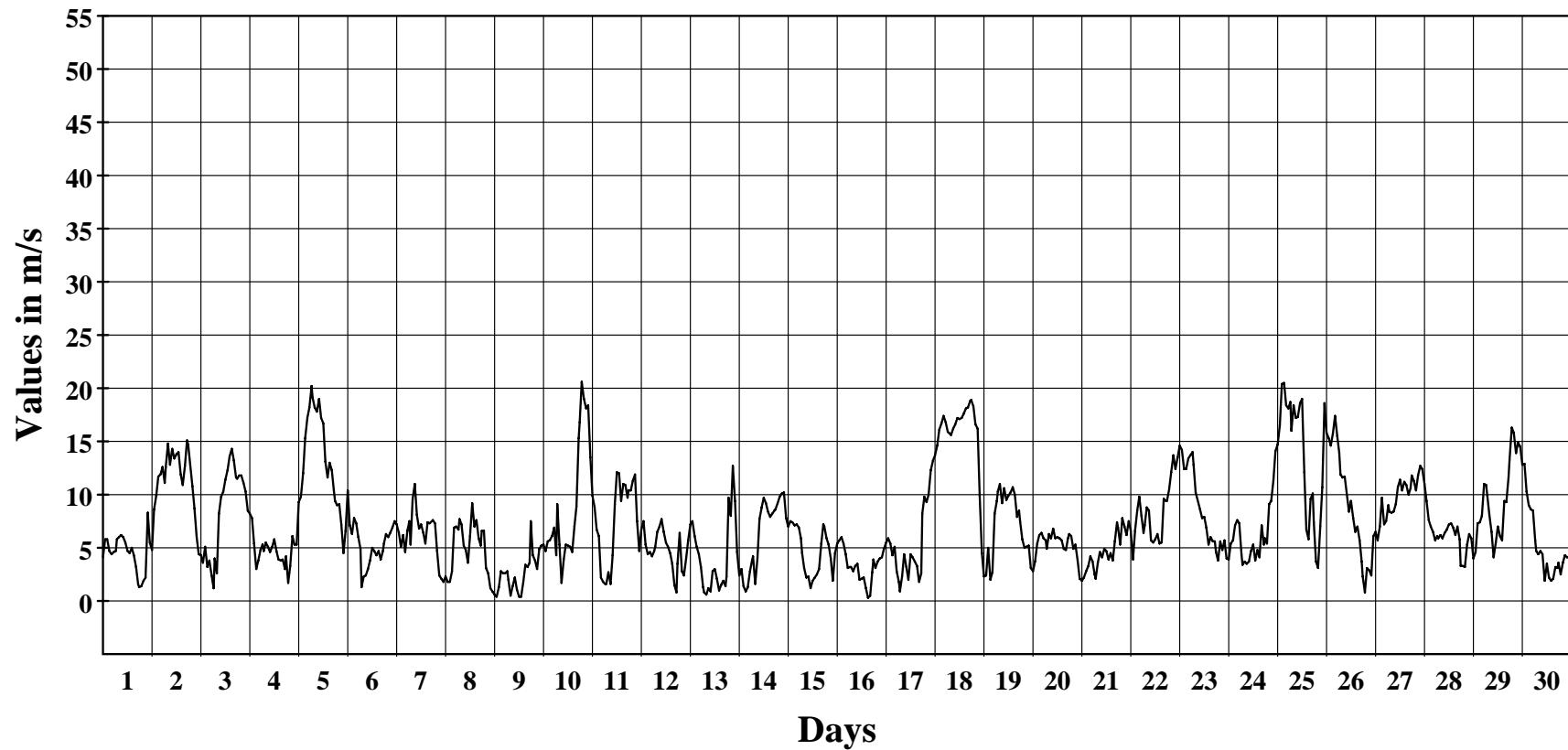
Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4320	4320	4320	4320	4320		4320	4320	4320			4320
Average Filtered Data	7.2	7.12	6.35	7.33	8.2		31.33	33.06	0.62			13.43
Average for All Data	7.2	7.12	6.35	7.33	8.2		31.33	33.06	0.62			13.43
Min Interval Average	0.3	0.3	0.3	0.2	1				-5.9			13
Date of Min Interval	03.11.2007	08.11.2007	01.11.2007	16.11.2007	03.11.2007				28.11.2007			16.11.2007
Time of Min Interval	06:30:00	22:40:00	18:50:00	16:00:00	06:00:00				10:40:00			11:00:00
Max Interval Average	22	21.3	19.5	22.2	23.8				10.3			15.1
Date of Max Interval	05.11.2007	10.11.2007	05.11.2007	05.11.2007	05.11.2007				17.11.2007			07.11.2007
Time of Max Interval	06:00:00	19:40:00	06:00:00	06:00:00	06:00:00				21:10:00			11:10:00
Average Interval SD	0.98	0.99	1.05	1.02	0.99		6.35	10.45	0.03			0
Min Sample	0.3	0.3	0.3	0.2	1				-6			12.9
Date of Min Sample	01.11.2007	01.11.2007	01.11.2007	01.11.2007	01.11.2007				28.11.2007			04.11.2007
Time of Min Sample	17:00:00	18:50:00	16:50:00	18:50:00	18:50:00				10:40:00			11:00:00
Max Sample	31.5	30.5	29.4	31	34.8				10.5			15.2
Date of Max Sample	05.11.2007	05.11.2007	05.11.2007	05.11.2007	05.11.2007				17.11.2007			01.11.2007
Time of Max Sample	05:10:00	06:00:00	06:00:00	05:10:00	06:30:00				21:10:00			09:40:00
Average Interval TI	0.16	0.16	0.19	0.15	0.13							
Wind Speed Direction							NN	NN				

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

november 2007**Hourly Averages Graph Ch 1**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.2**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

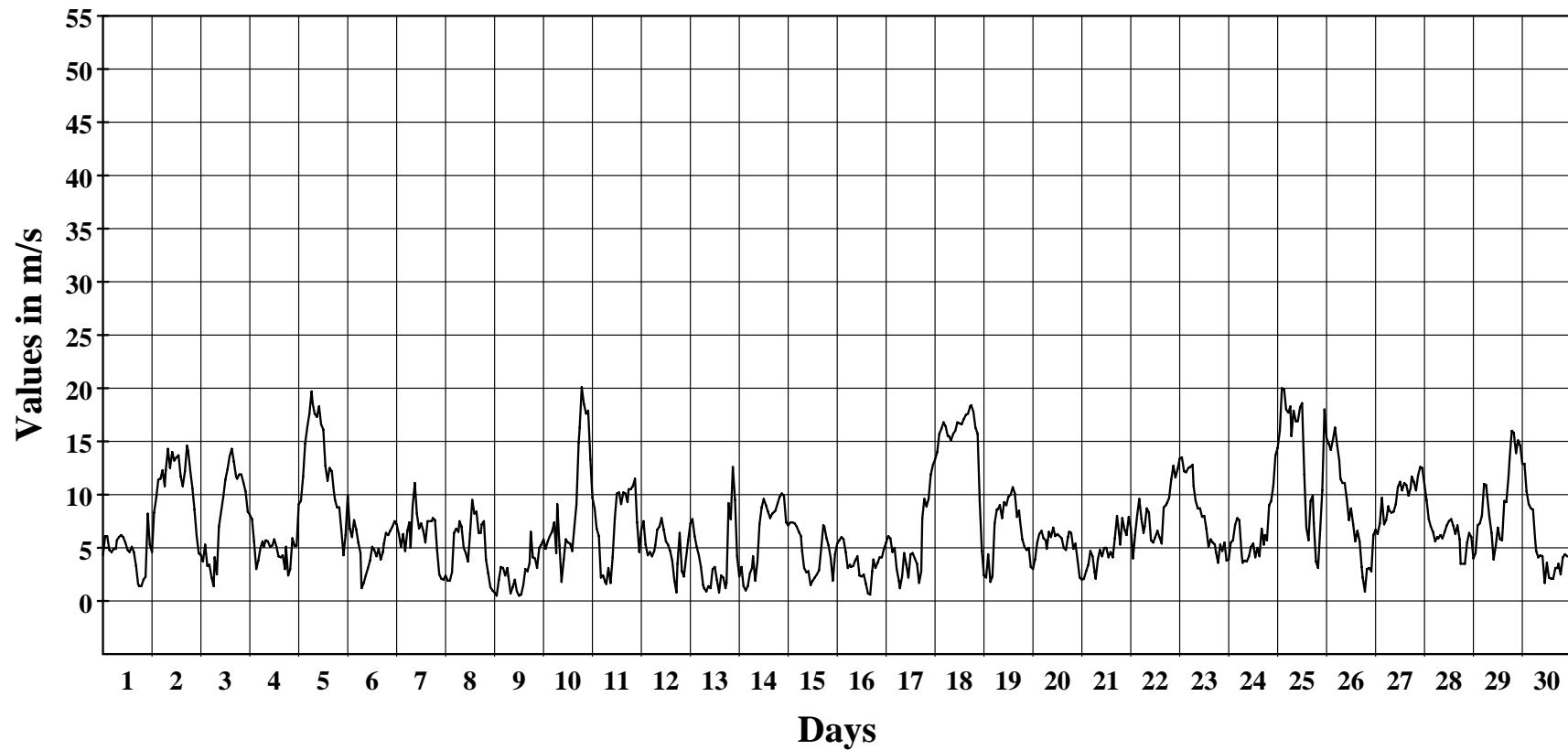
Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

november 2007**Hourly Averages Graph Ch 2**

SITE 1601

Nanortalik

Average Hourly Values**Average Value: 7.1**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

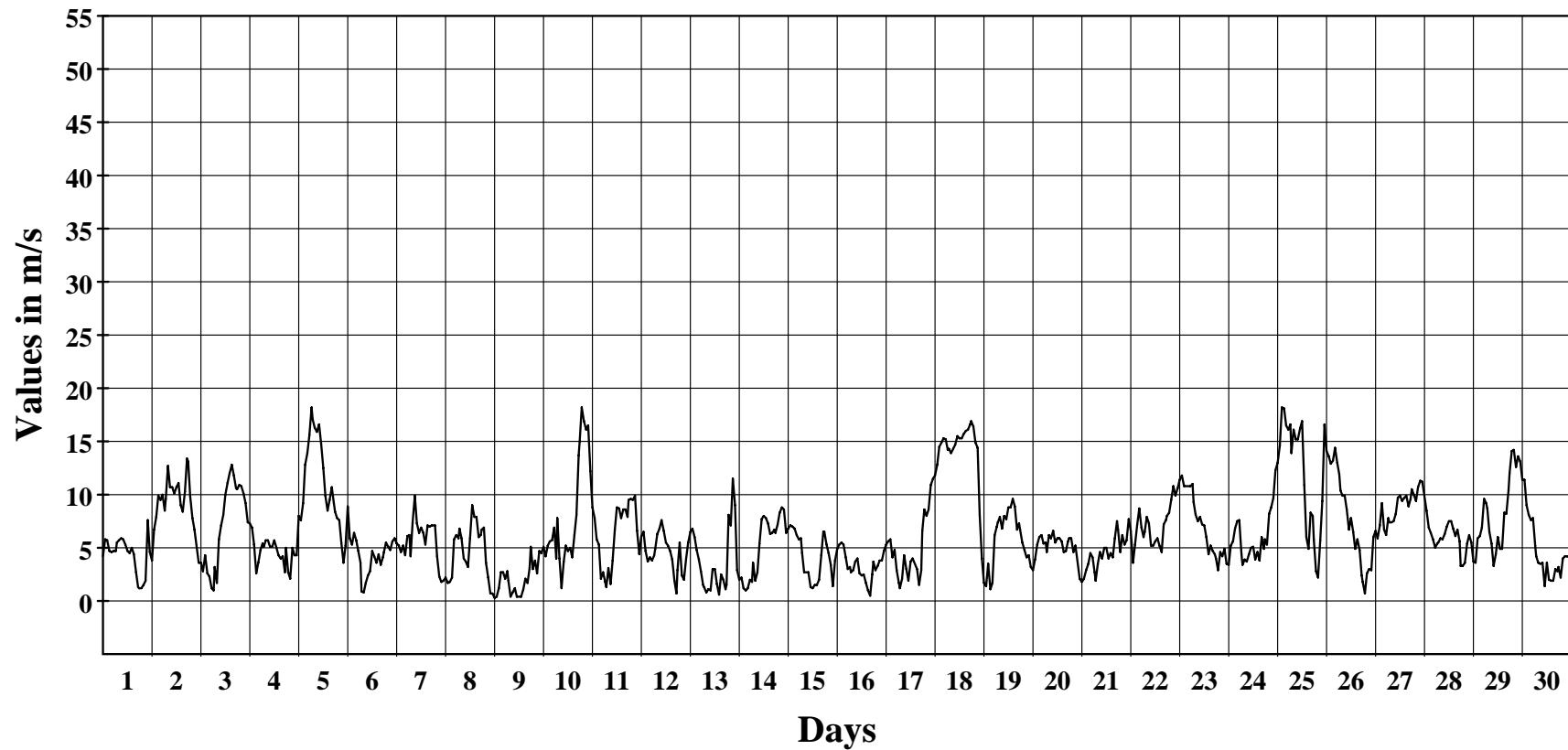
Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

november 2007**Hourly Averages Graph Ch 3**

SITE 1601

Nanortalik

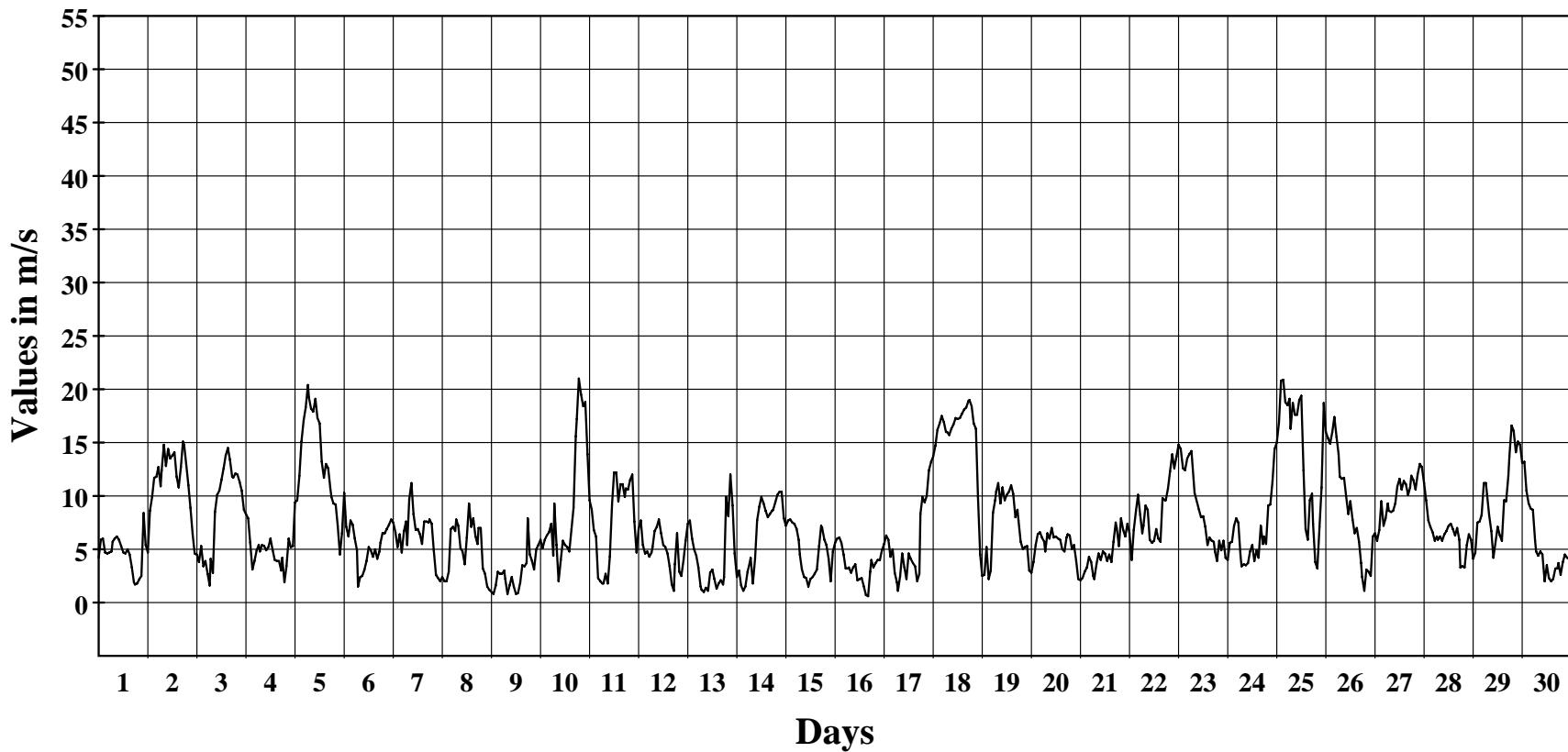
Average Hourly Values**Average Value: 6.3**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

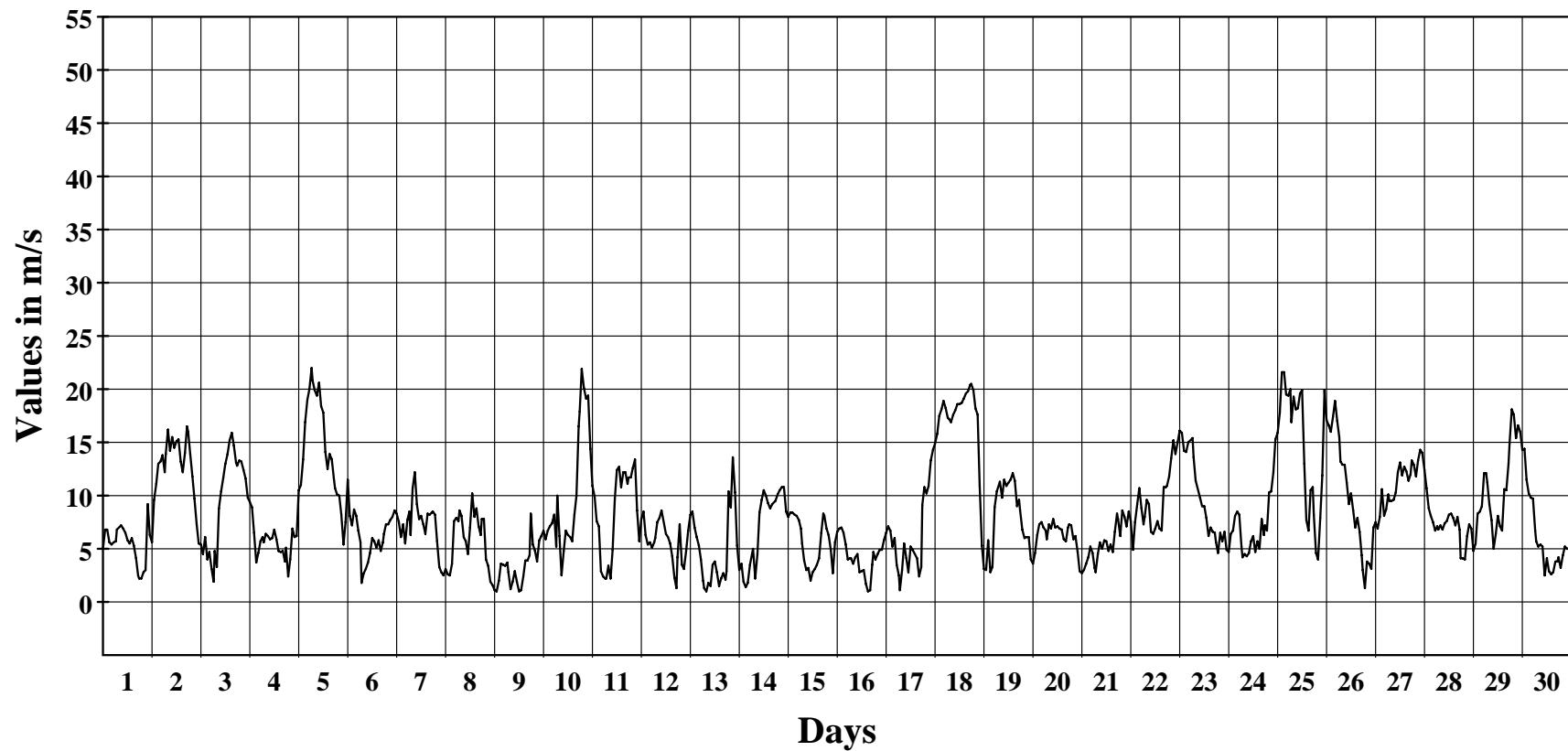
november 2007**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.3**

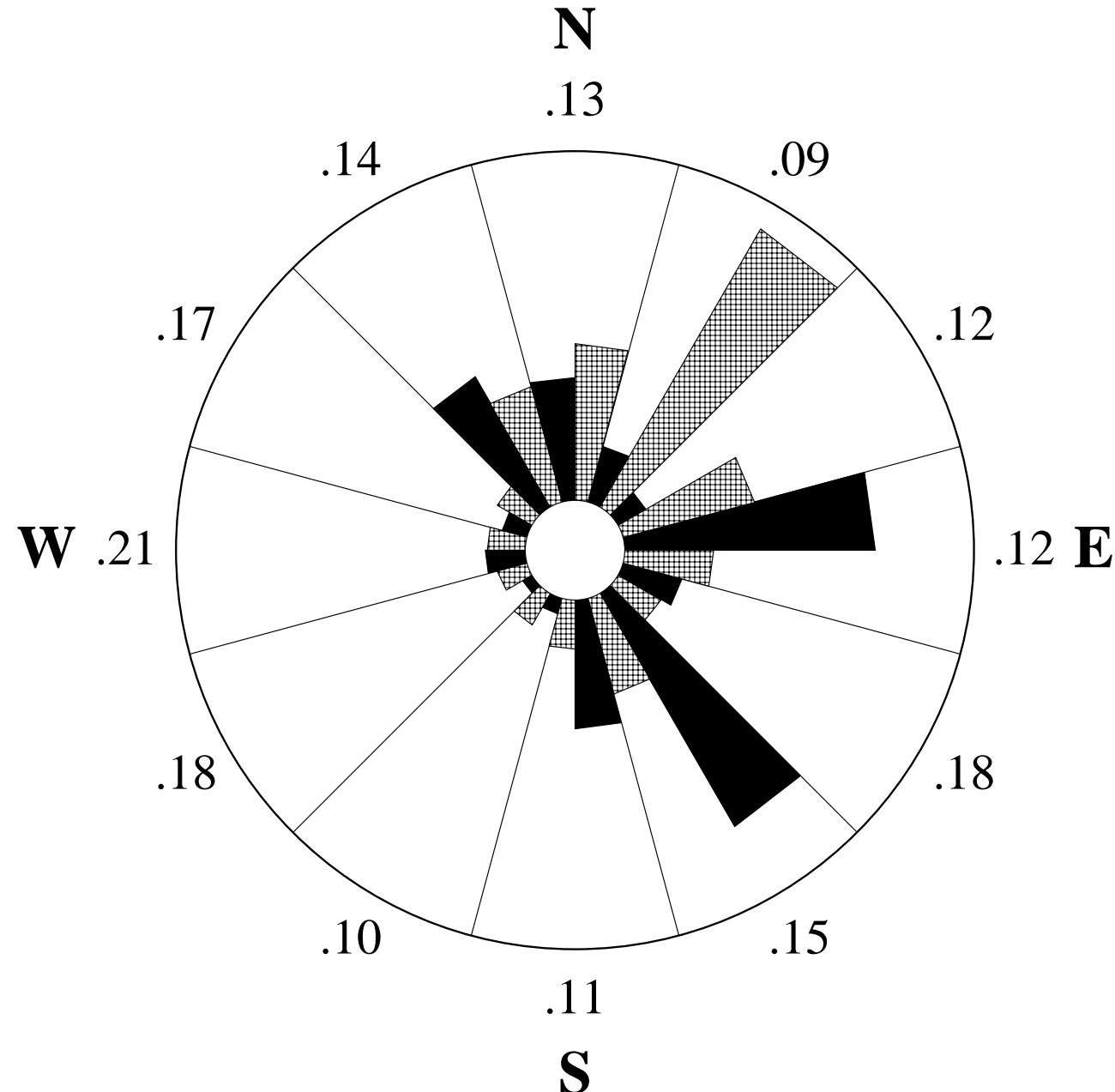
Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

november 2007**Hourly Averages Graph Ch 5**SITE 1601
Nanortalik**Average Hourly Values****Average Value: 8.2**



november 2007

Wind Rose Ch 1,8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

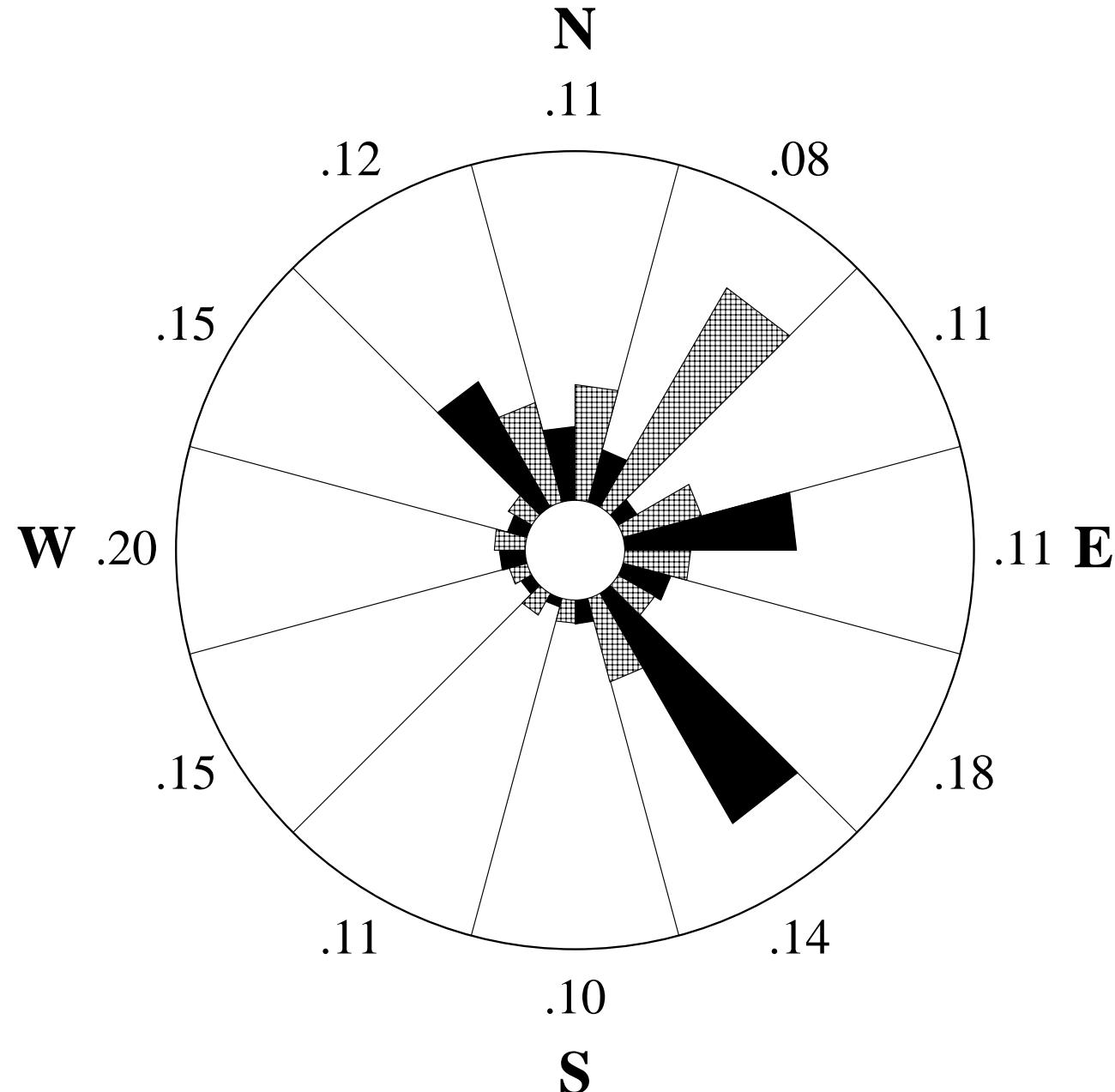
Outer Numbers are Average TIs
for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 30%

Percent of Total Wind Energy

Percent of Total Time



Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

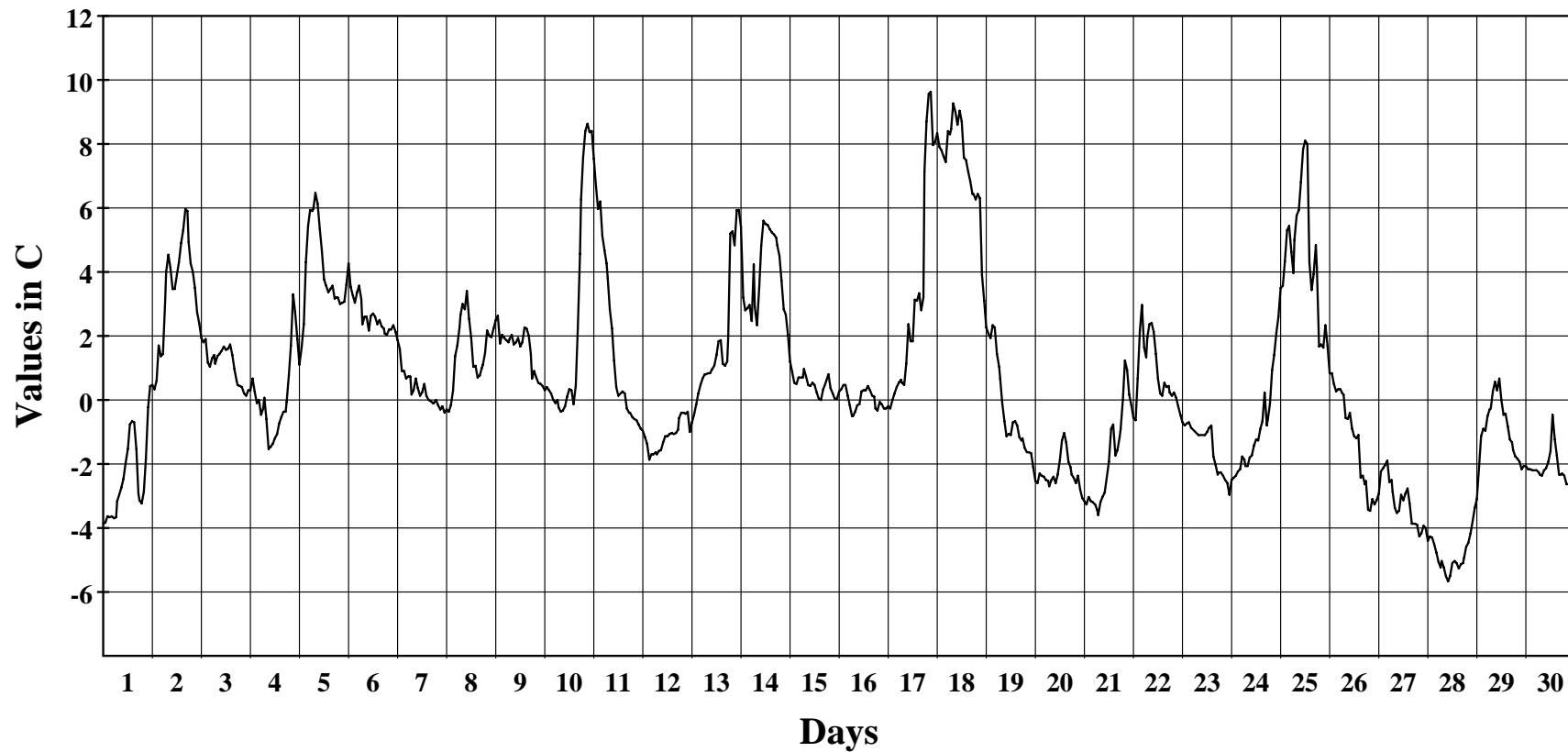
Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

november 2007**Hourly Averages Graph Ch 9**

SITE 1601

Nanortalik

Average Hourly Values**Average Value: 0.6**

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

desember 2007**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	7.73	7.65	6.9	7.93	8.87		15.18	18.92	-4.04			13.4
Average for All Data	7.73	7.65	6.9	7.93	8.87		15.18	18.92	-4.04			13.4
Min Interval Average	0.3	0.3	0.3	0.4	1				-11.6			12.9
Date of Min Interval	07.12.2007	07.12.2007	07.12.2007	07.12.2007	07.12.2007				31.12.2007			27.12.2007
Time of Min Interval	00:10:00	03:30:00	00:30:00	00:20:00	00:10:00				13:10:00			11:10:00
Max Interval Average	23.7	23.3	20.7	24.1	27.2				3.6			15.2
Date of Max Interval	31.12.2007	31.12.2007	31.12.2007	31.12.2007	31.12.2007				01.12.2007			22.12.2007
Time of Max Interval	17:00:00	08:50:00	08:50:00	10:50:00	17:00:00				06:50:00			13:00:00
Average Interval SD	1.09	1.09	1.14	1.14	1.09		6.54	9.51	0.02			0.01
Min Sample	0.3	0.3	0.3	0.2	1				-11.9			4.7
Date of Min Sample	01.12.2007	01.12.2007	01.12.2007	03.12.2007	01.12.2007				31.12.2007			03.12.2007
Time of Min Sample	20:10:00	20:10:00	20:10:00	17:30:00	20:10:00				13:40:00			09:30:00
Max Sample	36.4	36.6	34.8	37.3	43.4				3.7			15.3
Date of Max Sample	31.12.2007	31.12.2007	31.12.2007	31.12.2007	31.12.2007				01.12.2007			24.12.2007
Time of Max Sample	16:20:00	15:40:00	17:10:00	16:20:00	17:10:00				06:00:00			12:30:00
Average Interval TI	0.15	0.15	0.18	0.15	0.12							
Wind Speed Direction							NNW	NNW				

Site Information:

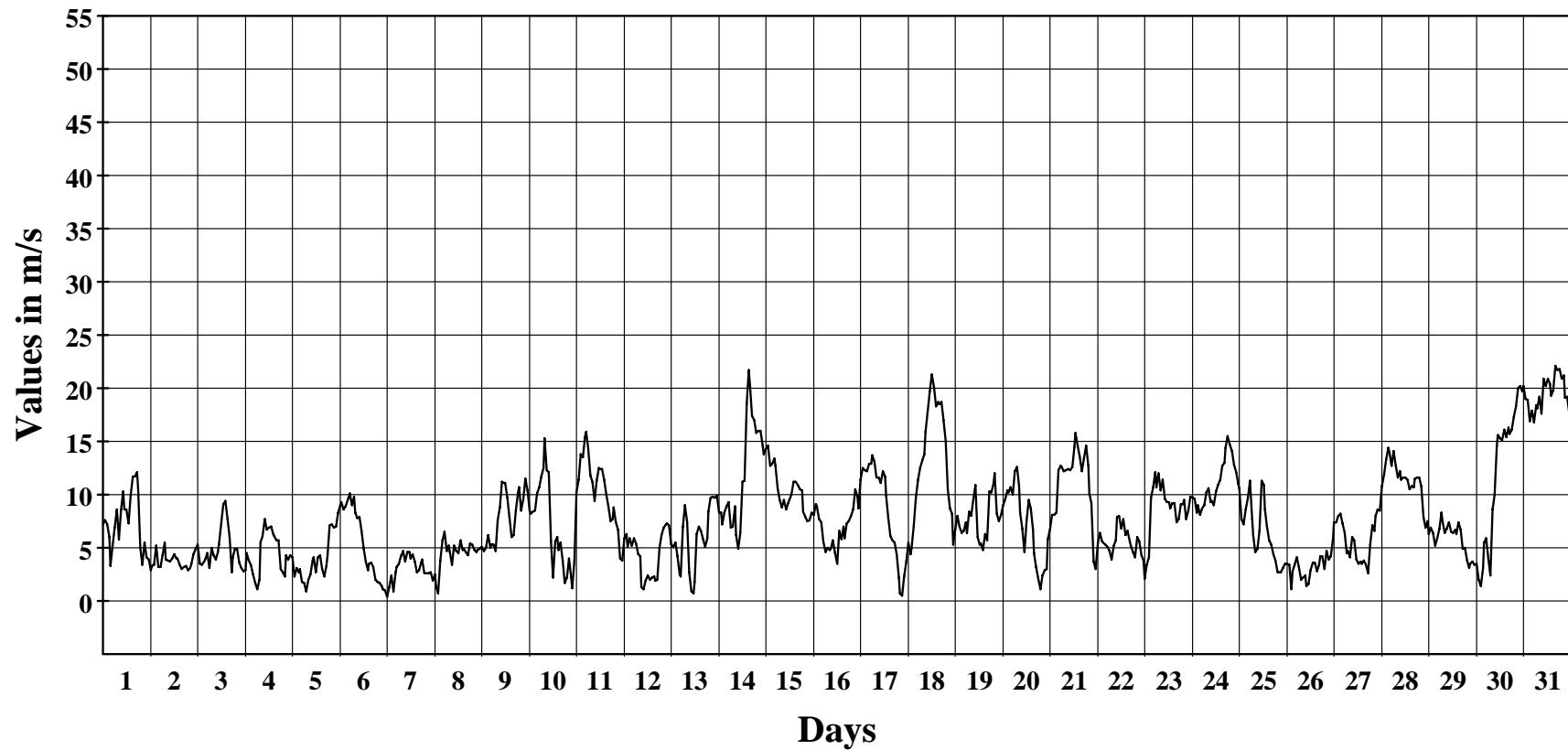
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

desember 2007

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

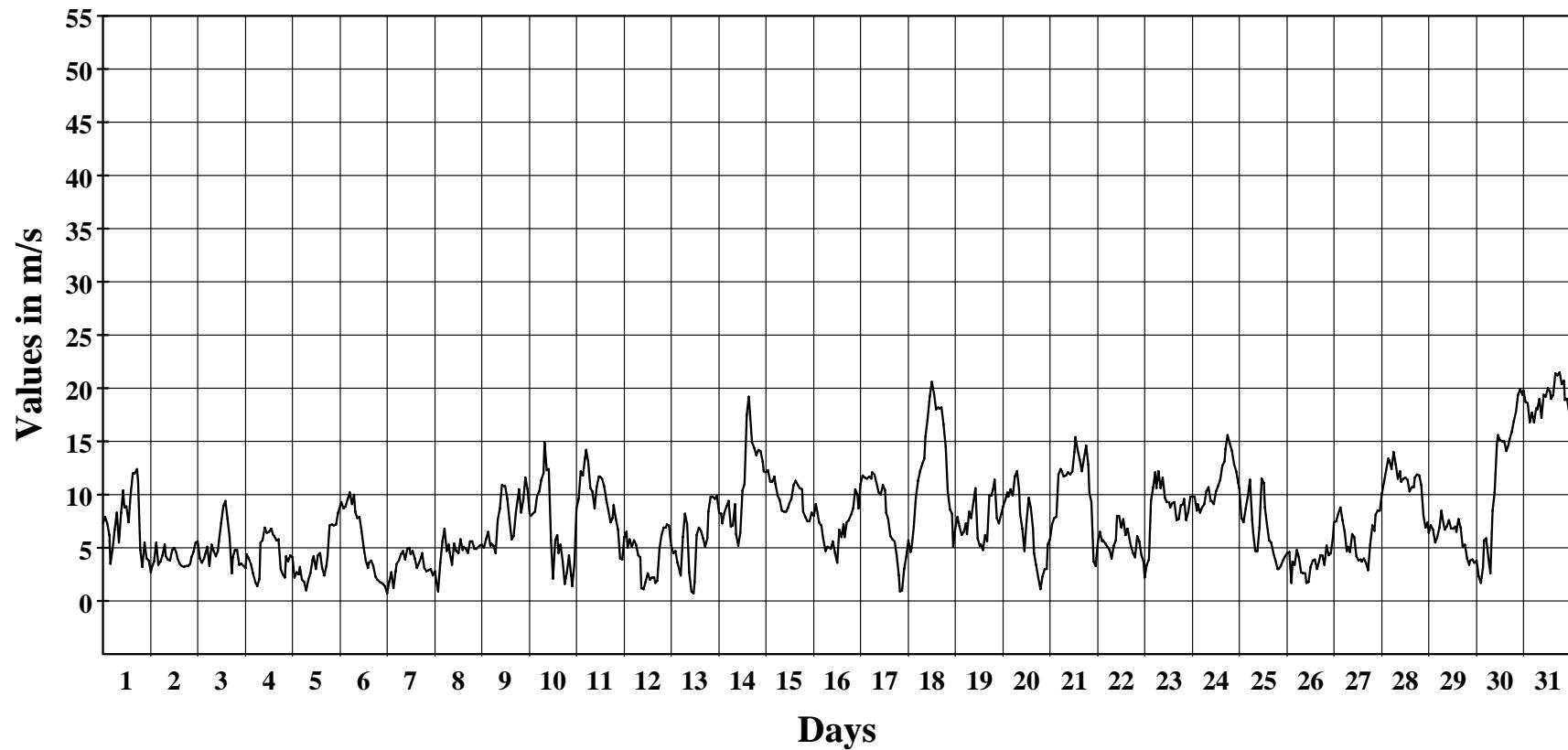
Average Hourly Values**Average Value: 7.7**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

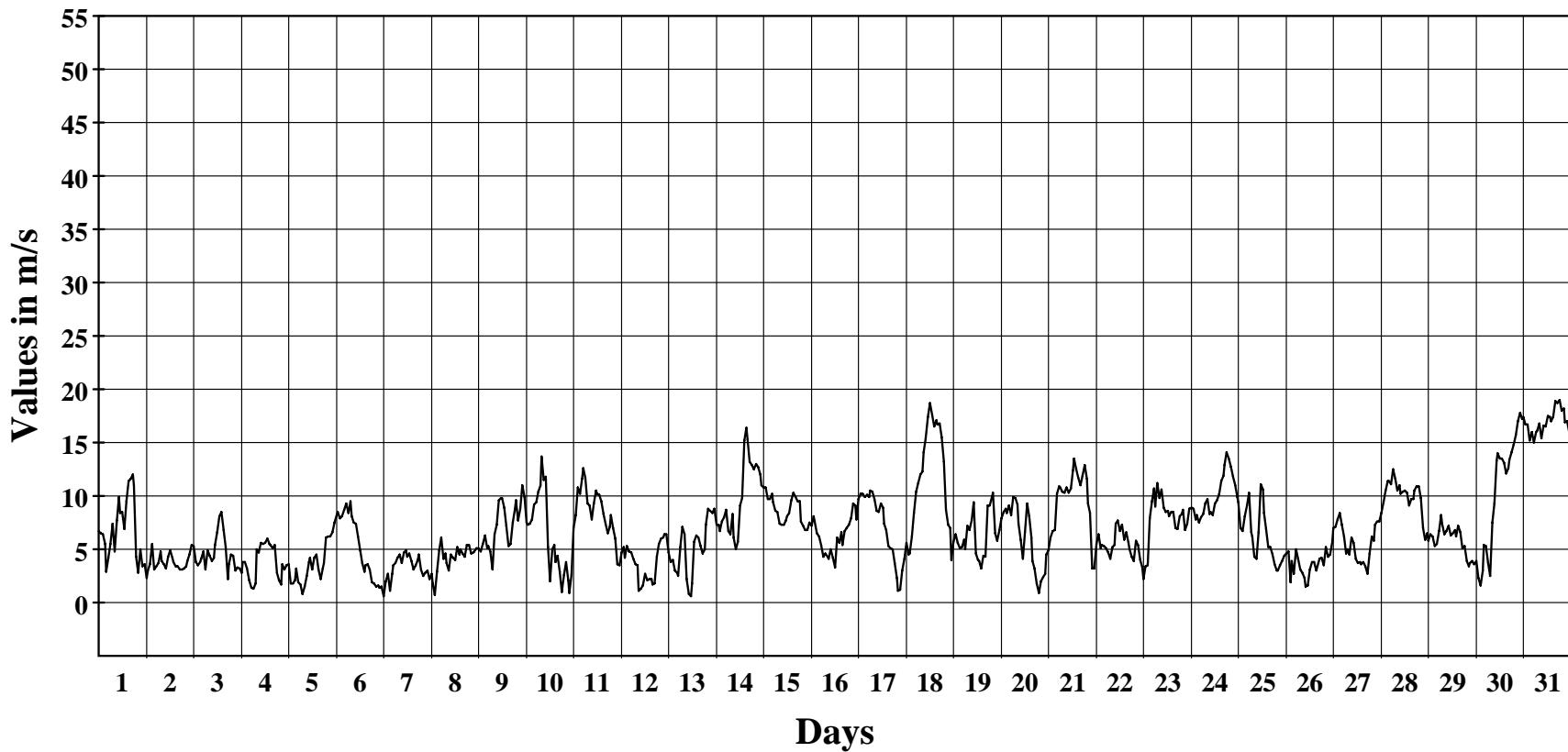
desember 2007**Hourly Averages Graph Ch 2**SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.7**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

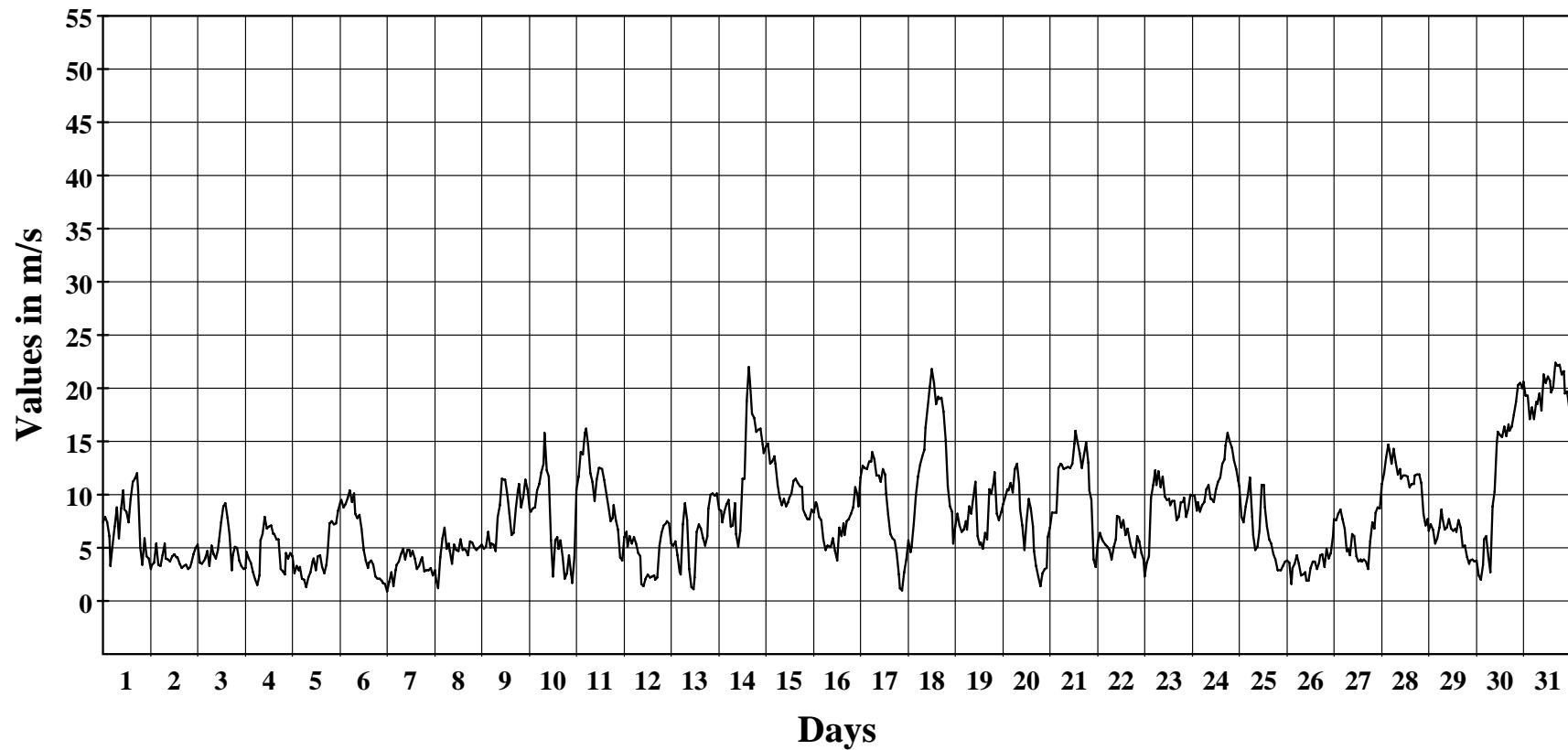
desember 2007**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.9**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

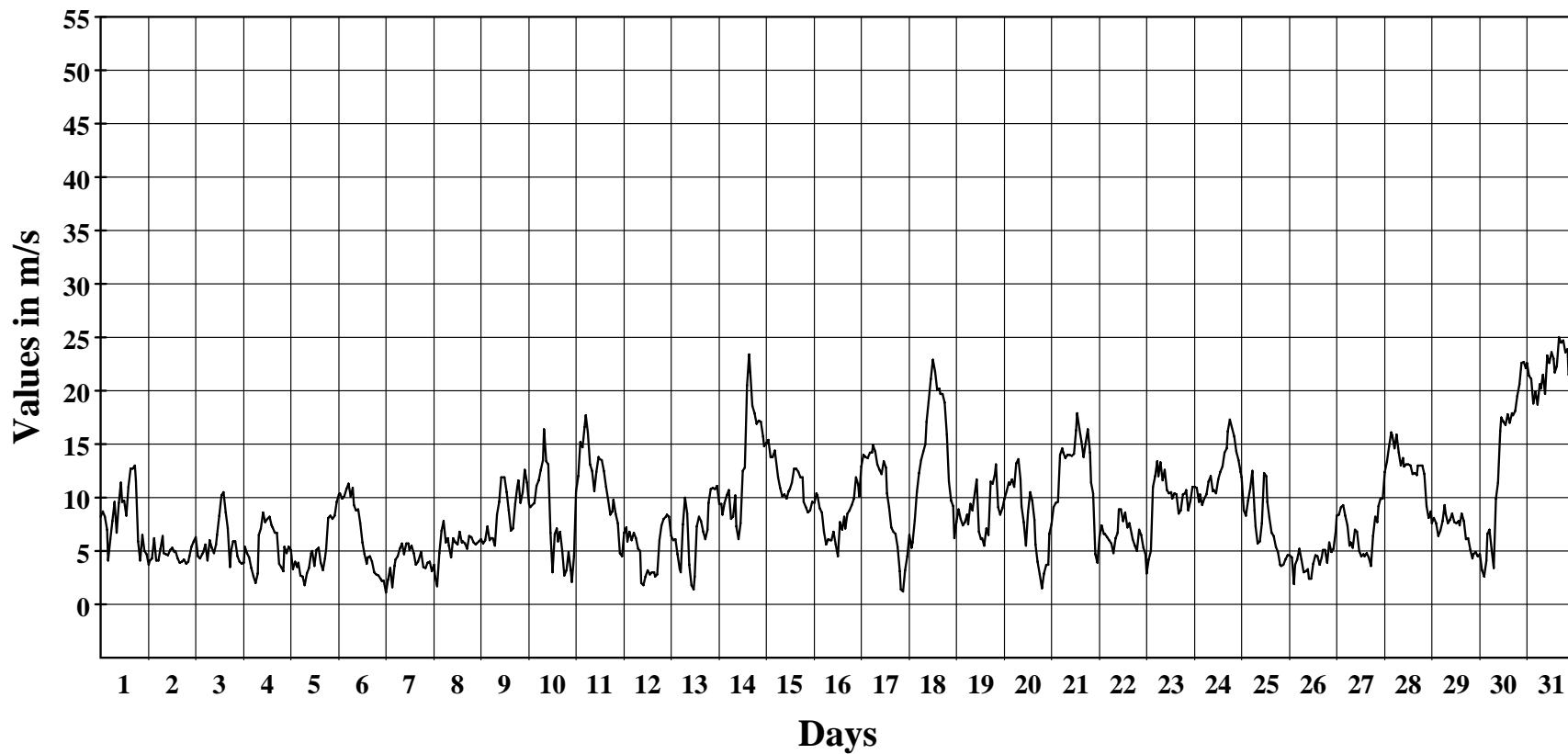
desember 2007**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.9**

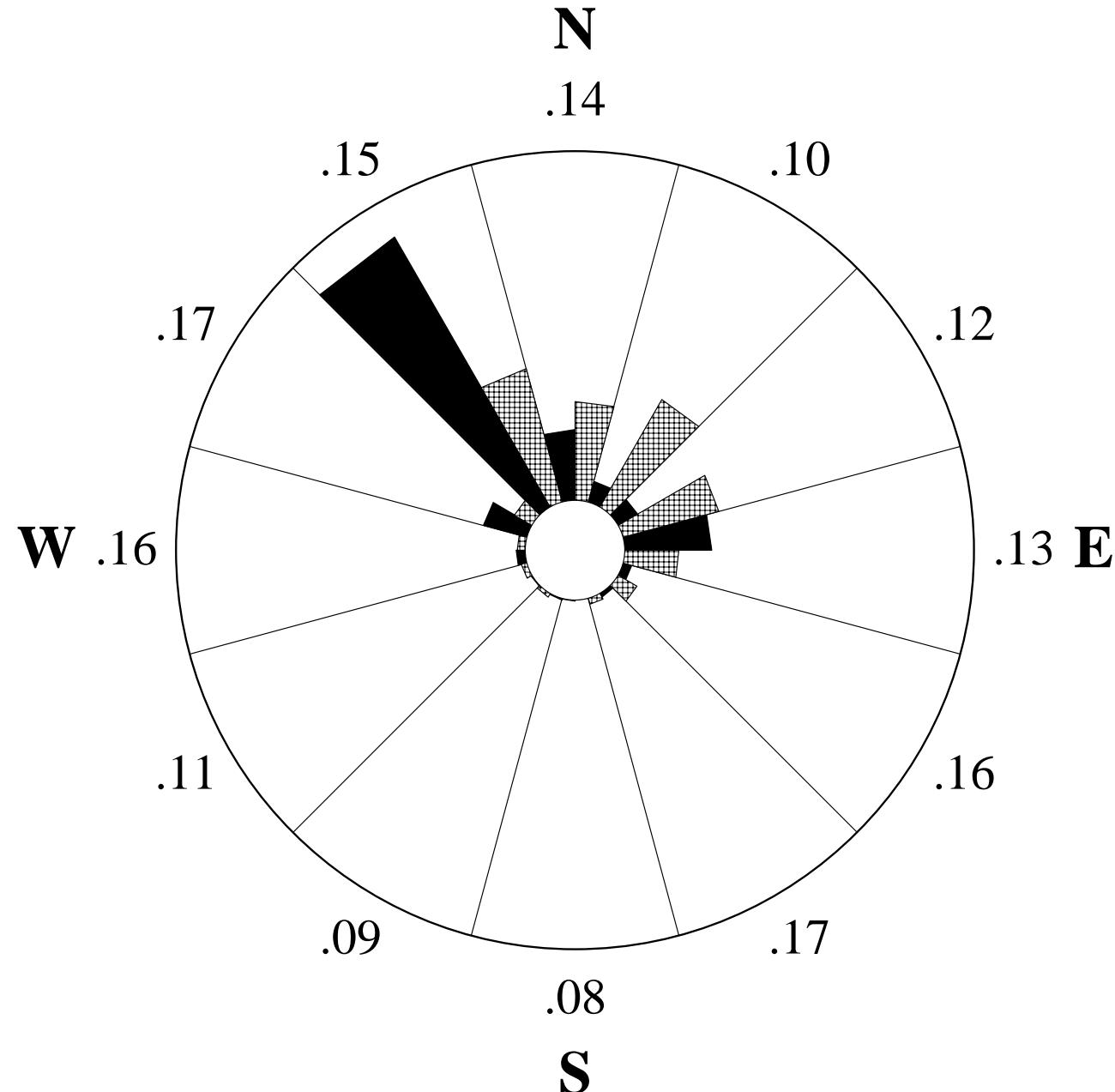
Site Information:

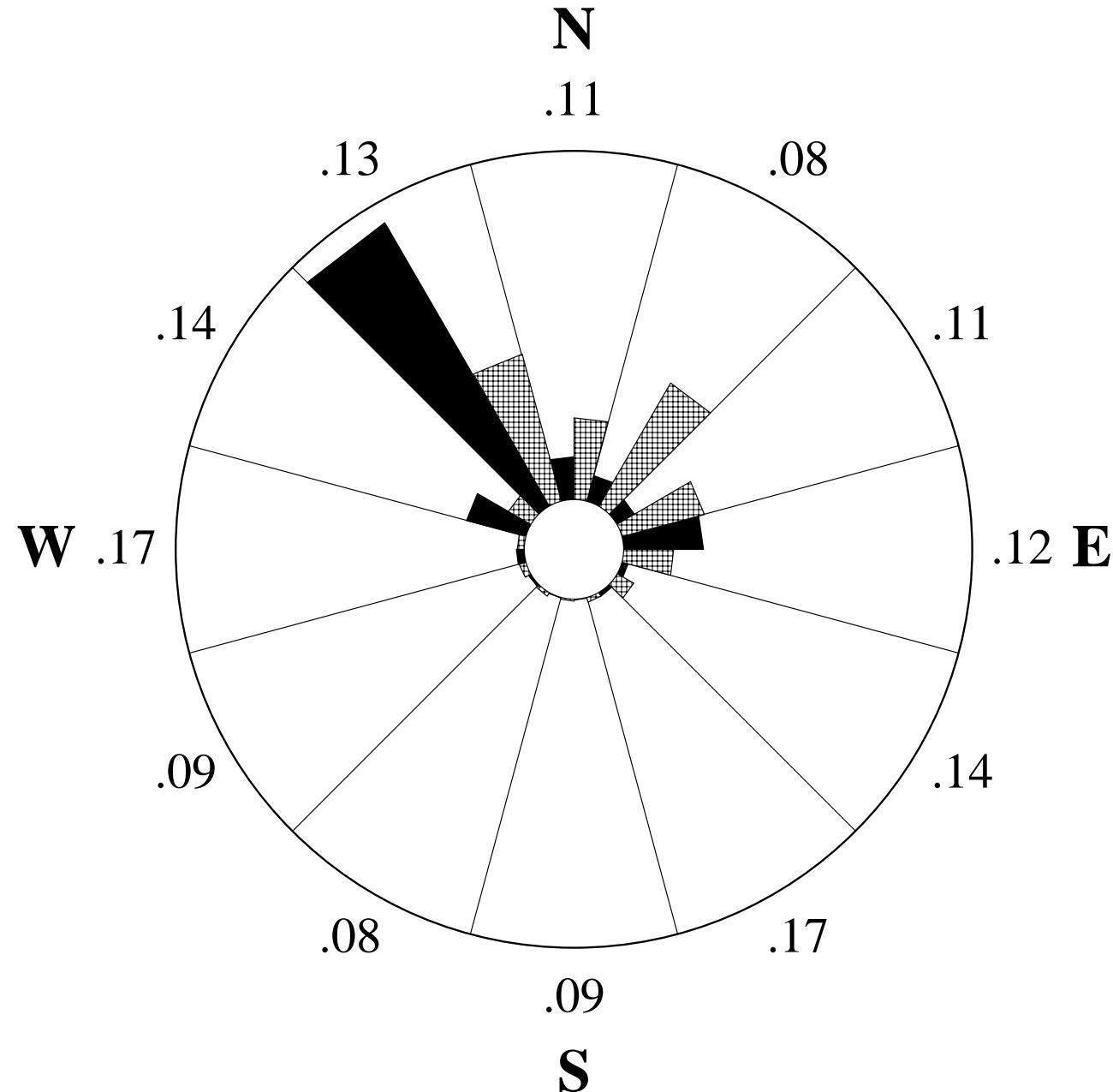
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

desember 2007**Hourly Averages Graph Ch 5**SITE 1601
Nanortalik**Average Hourly Values****Average Value: 8.9**



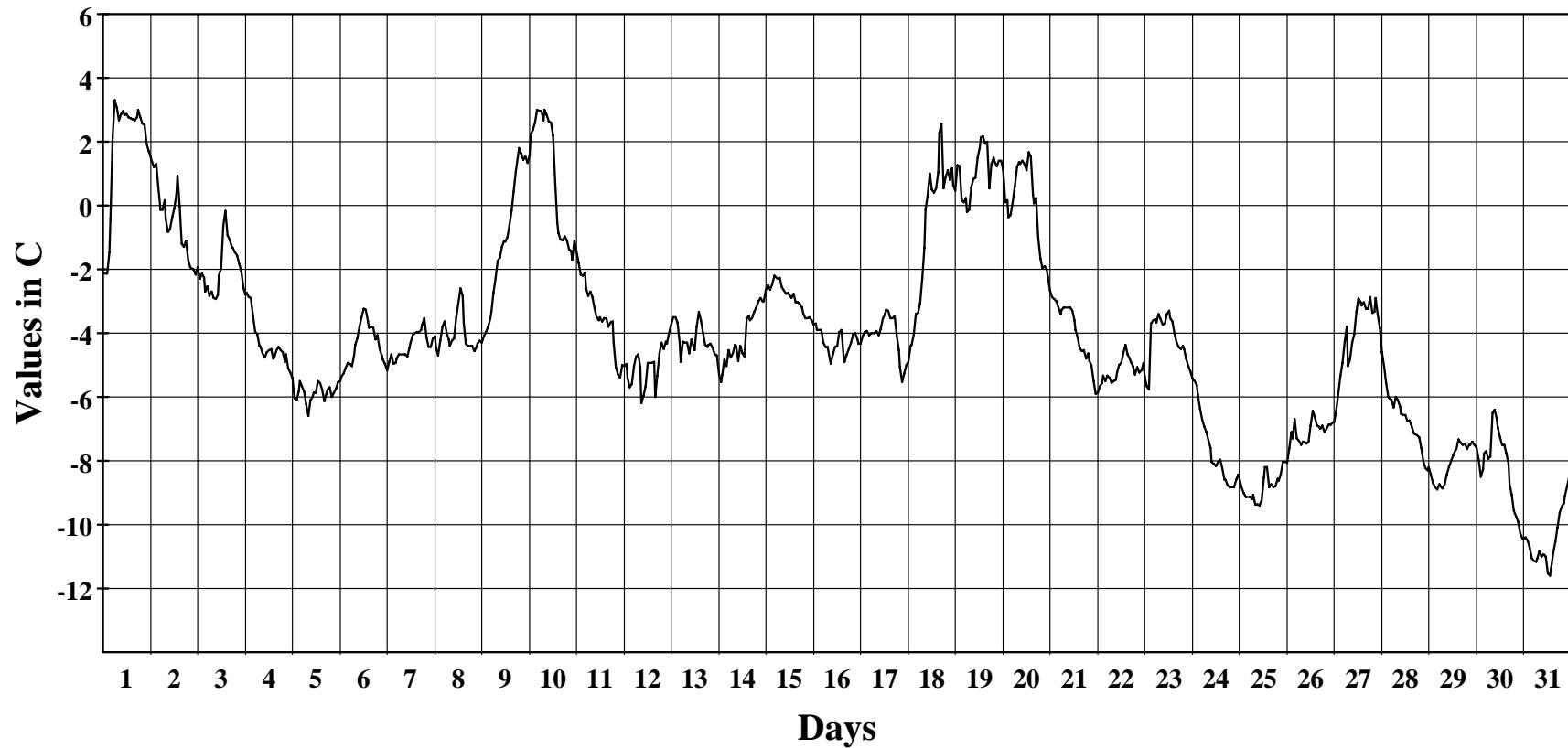


Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

desember 2007**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: -4.0**

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

januar 2008**Summary Report**

SITE 1601

Nanortalik

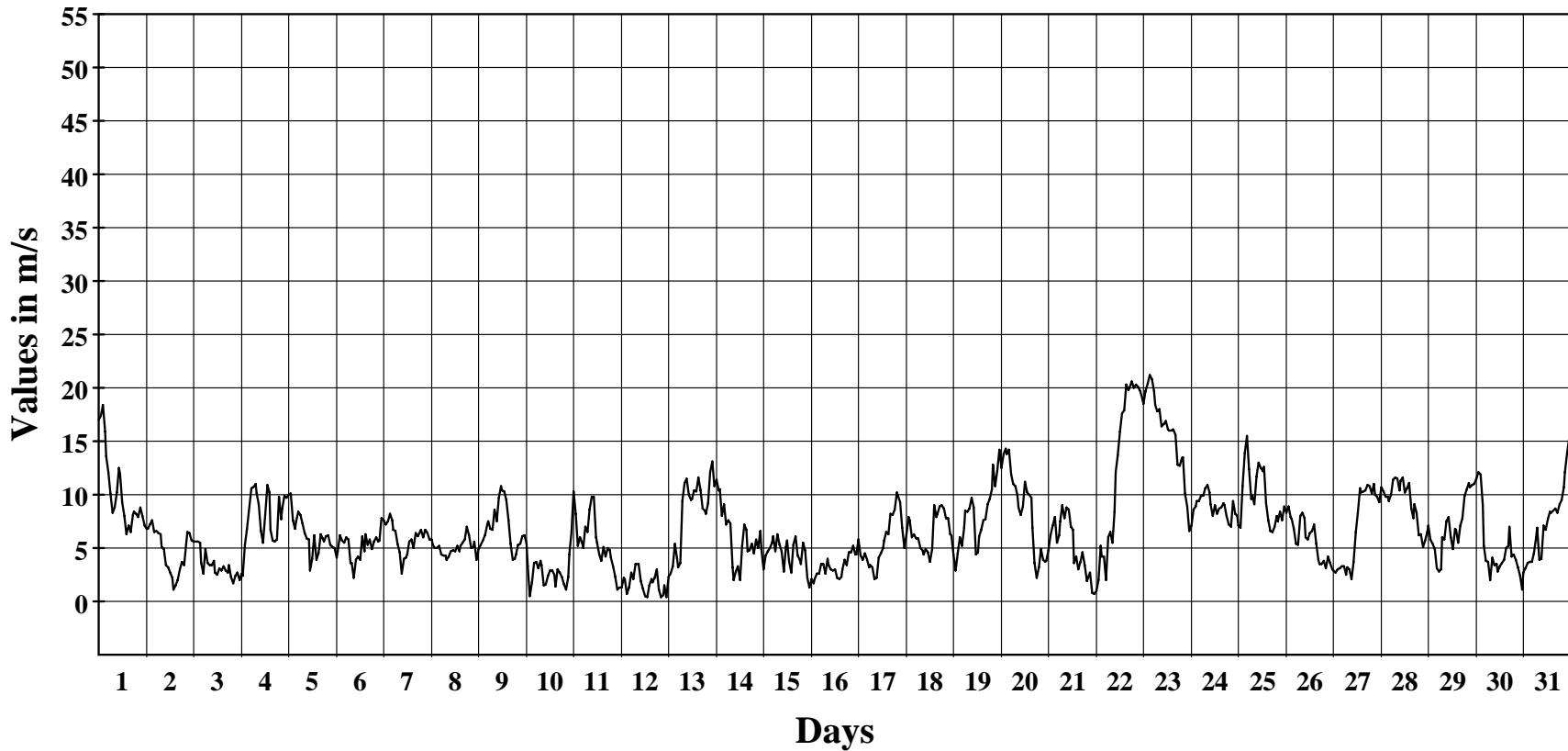
Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	6.78	6.72	5.97	6.98	7.88		18.7	22.84	-6.82			13.41
Average for All Data	6.78	6.72	5.97	6.98	7.88		18.7	22.84	-6.82			13.41
Min Interval Average	0.3	0.3	0.3	0.2	1				-13.9			12.9
Date of Min Interval	10.01.2008	10.01.2008	10.01.2008	12.01.2008	02.01.2008				26.01.2008			01.01.2008
Time of Min Interval	02:10:00	02:40:00	02:30:00	12:40:00	14:00:00				20:50:00			11:00:00
Max Interval Average	22.5	19.9	17	22.8	24.3				2			15.3
Date of Max Interval	23.01.2008	23.01.2008	23.01.2008	23.01.2008	23.01.2008				11.01.2008			01.01.2008
Time of Max Interval	03:50:00	03:50:00	03:50:00	03:50:00	03:50:00				10:50:00			12:30:00
Average Interval SD	0.92	0.93	0.97	0.96	0.92		5.85	9.31	0.04			0.01
Min Sample	0.3	0.3	0.3	0.2	1				-14.3			12.6
Date of Min Sample	02.01.2008	02.01.2008	02.01.2008	10.01.2008	02.01.2008				26.01.2008			26.01.2008
Time of Min Sample	13:50:00	13:50:00	13:50:00	15:20:00	13:50:00				21:00:00			11:00:00
Max Sample	29.9	29.3	26.8	30.4	33.3				2.5			15.4
Date of Max Sample	22.01.2008	20.01.2008	19.01.2008	22.01.2008	22.01.2008				11.01.2008			01.01.2008
Time of Max Sample	15:00:00	00:10:00	23:30:00	15:00:00	15:00:00				11:20:00			12:20:00
Average Interval TI	0.15	0.15	0.18	0.14	0.12							
Wind Speed Direction							NE	NE				

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

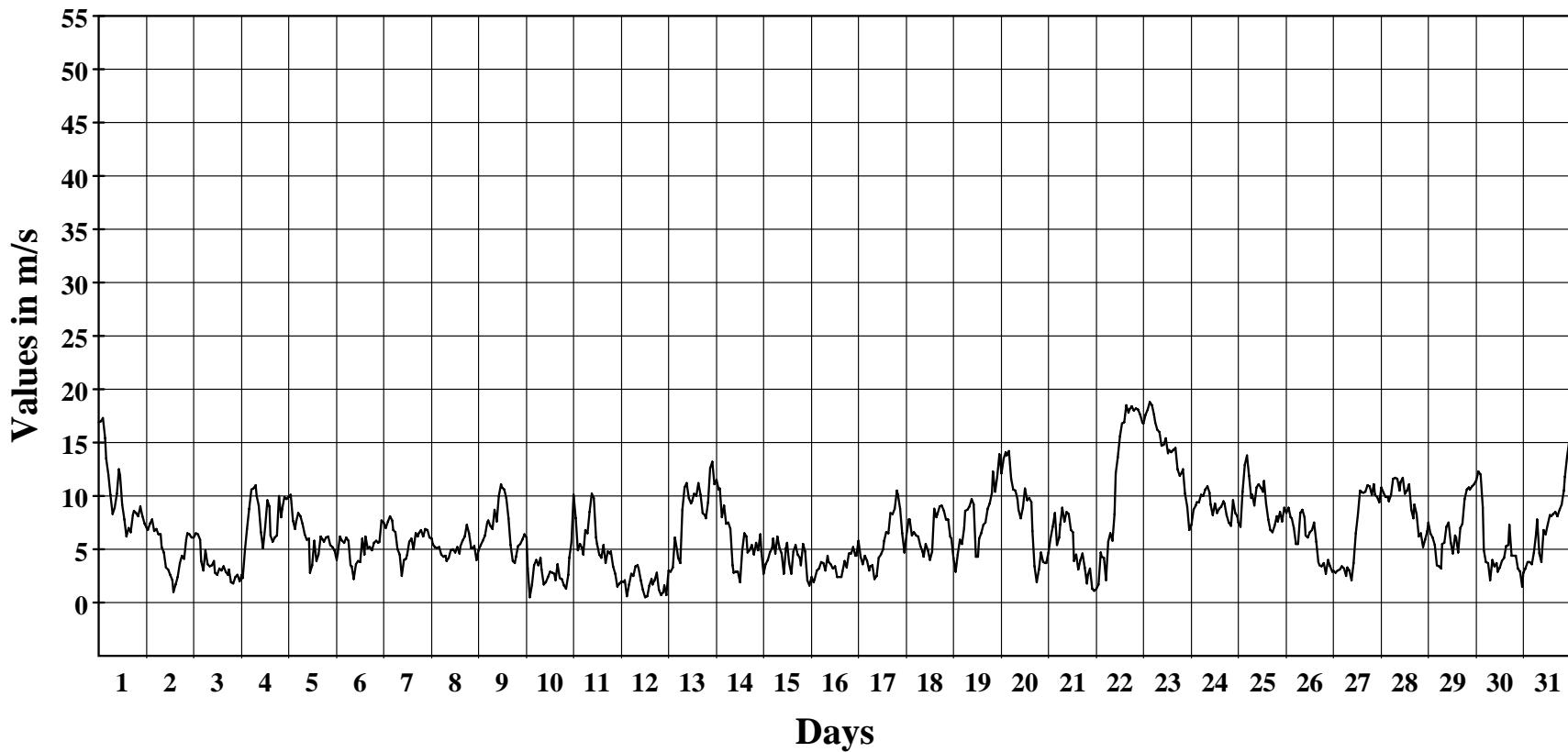
januar 2008**Hourly Averages Graph Ch 1**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.8**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

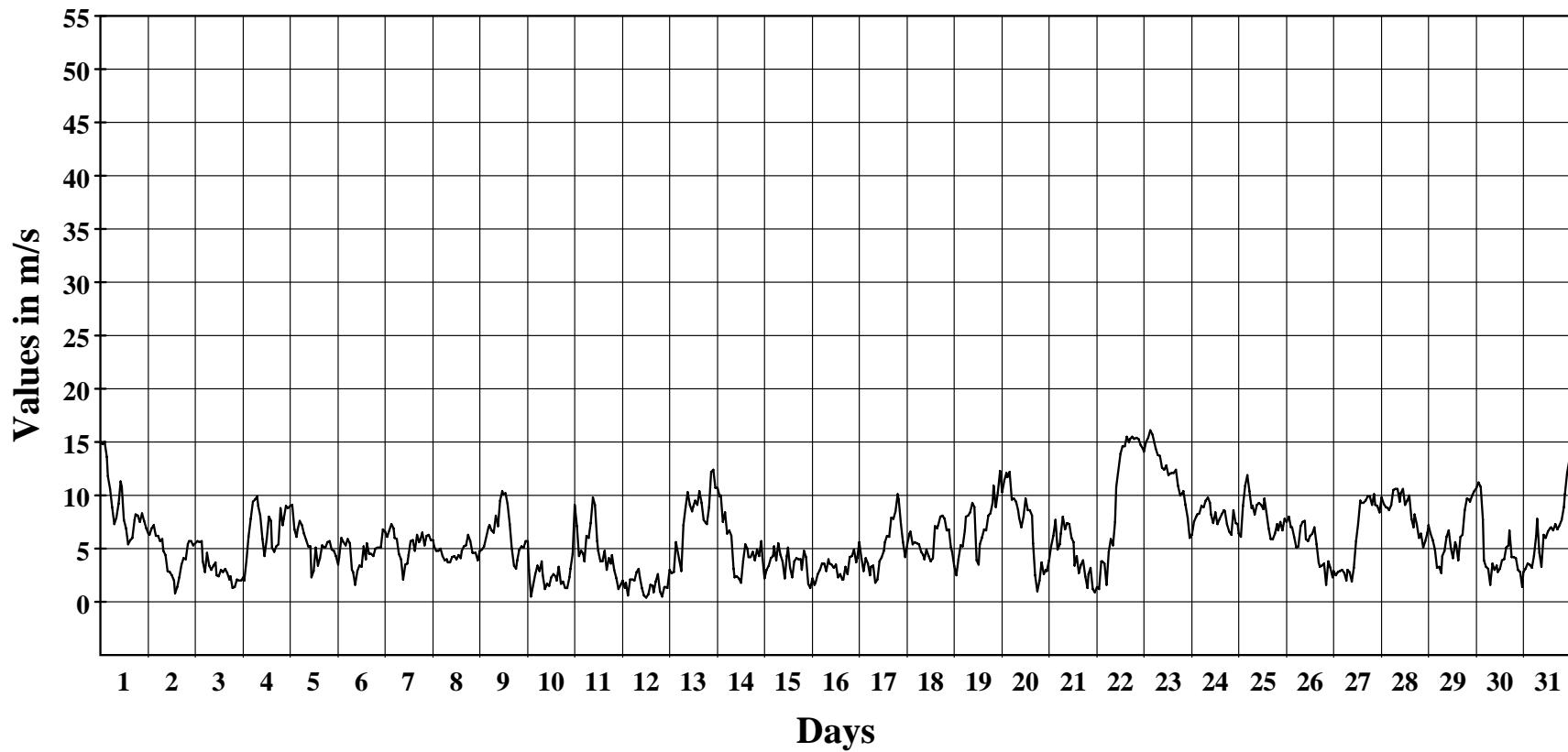
januar 2008**Hourly Averages Graph Ch 2**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.7**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

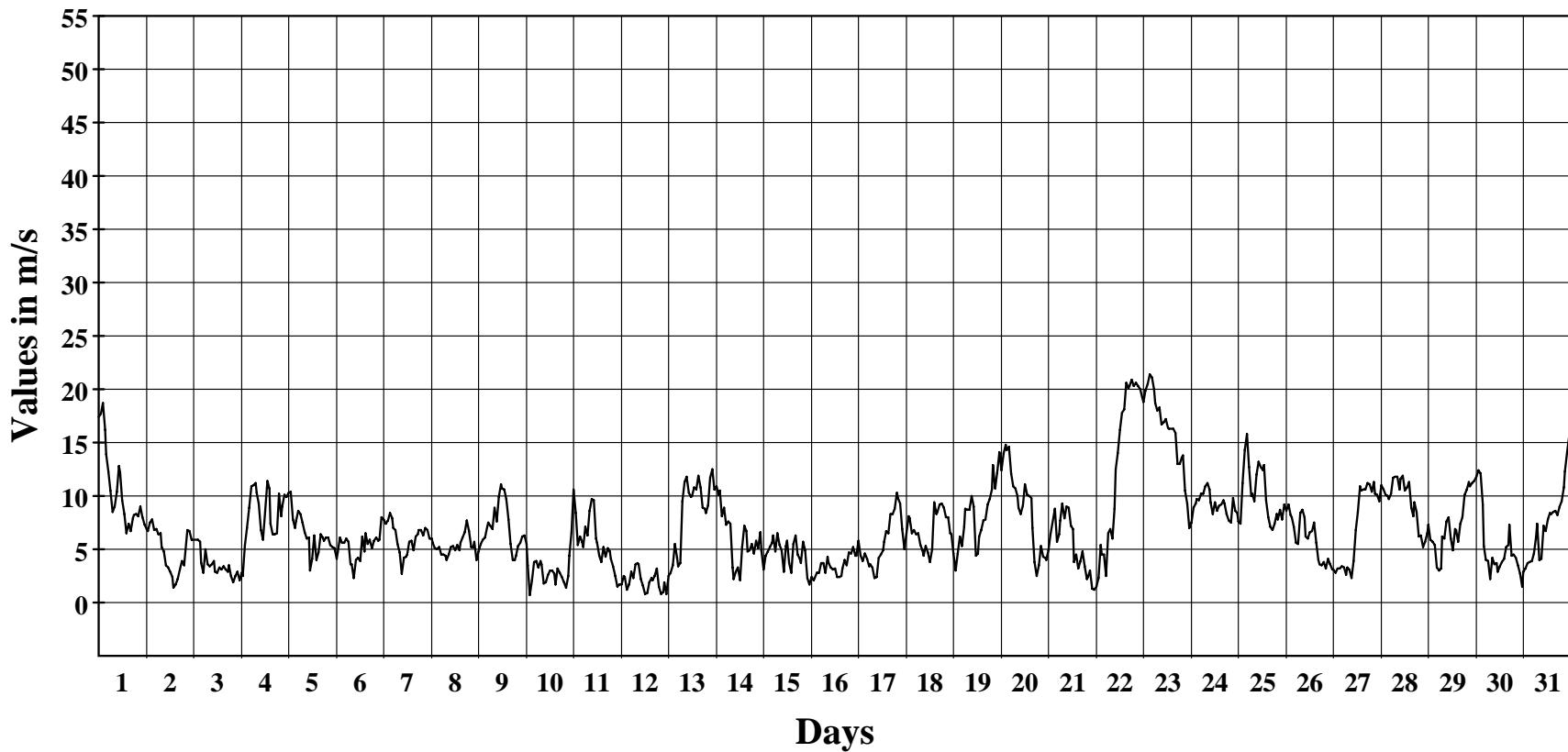
januar 2008**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.0**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

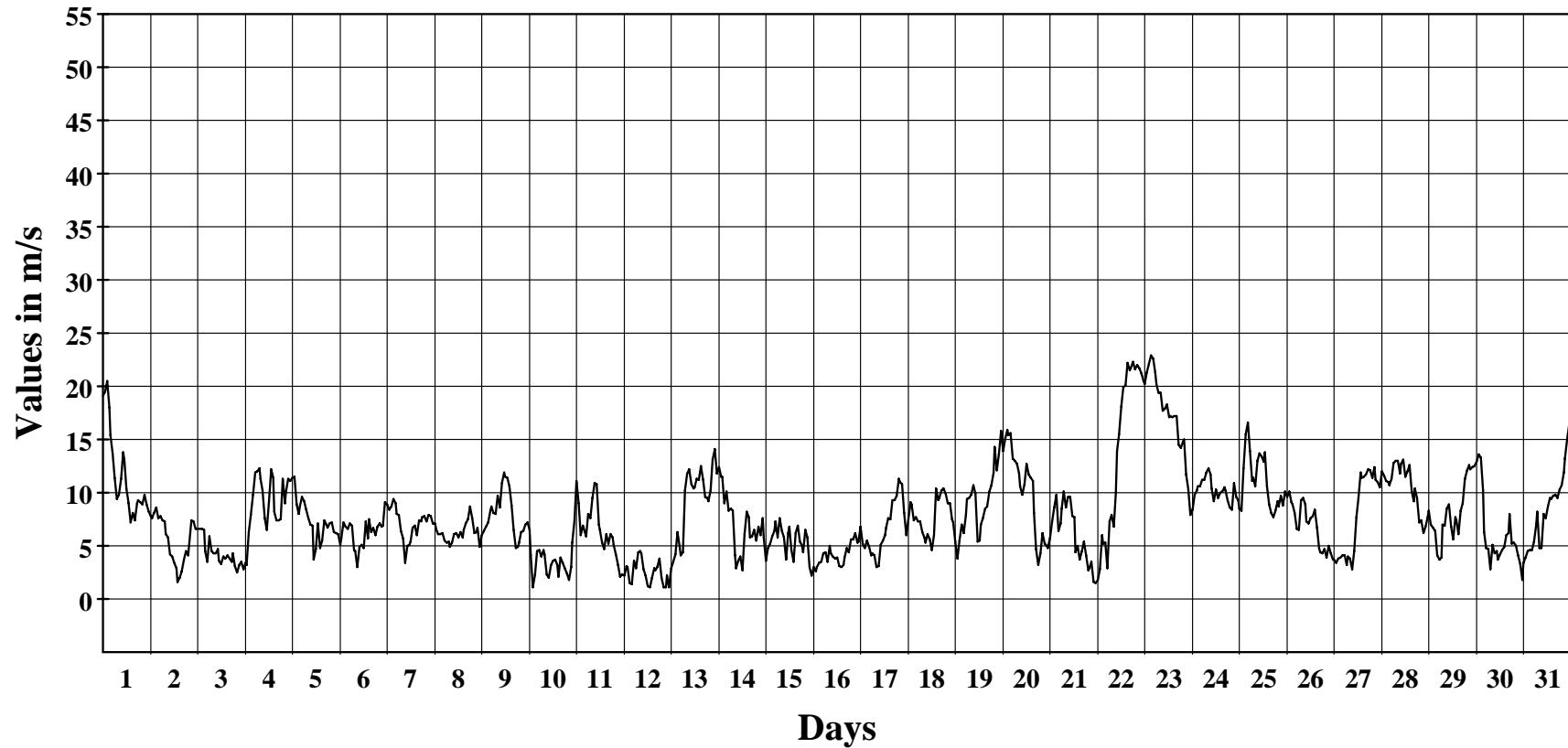
januar 2008**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.0**

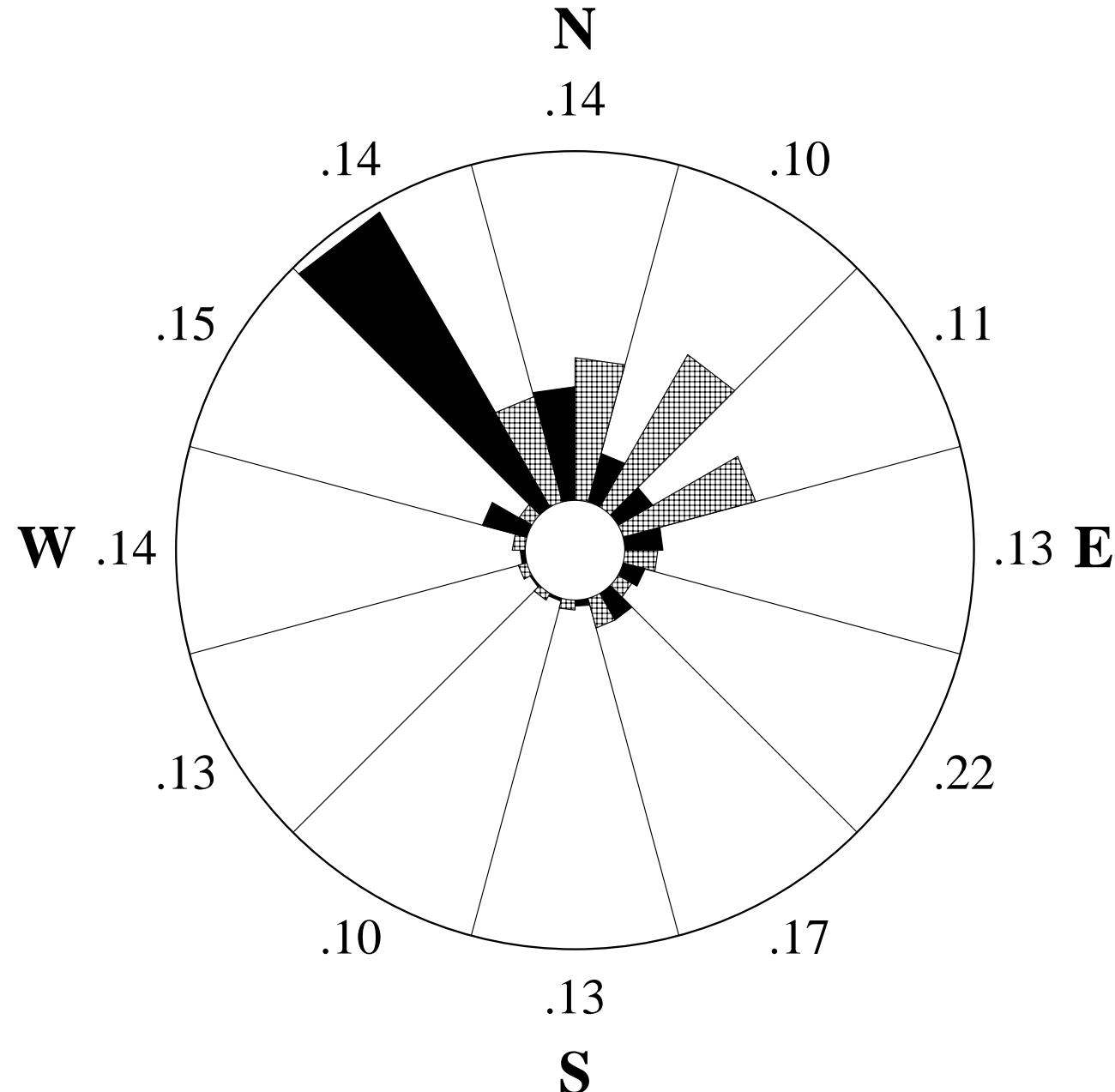
Site Information:

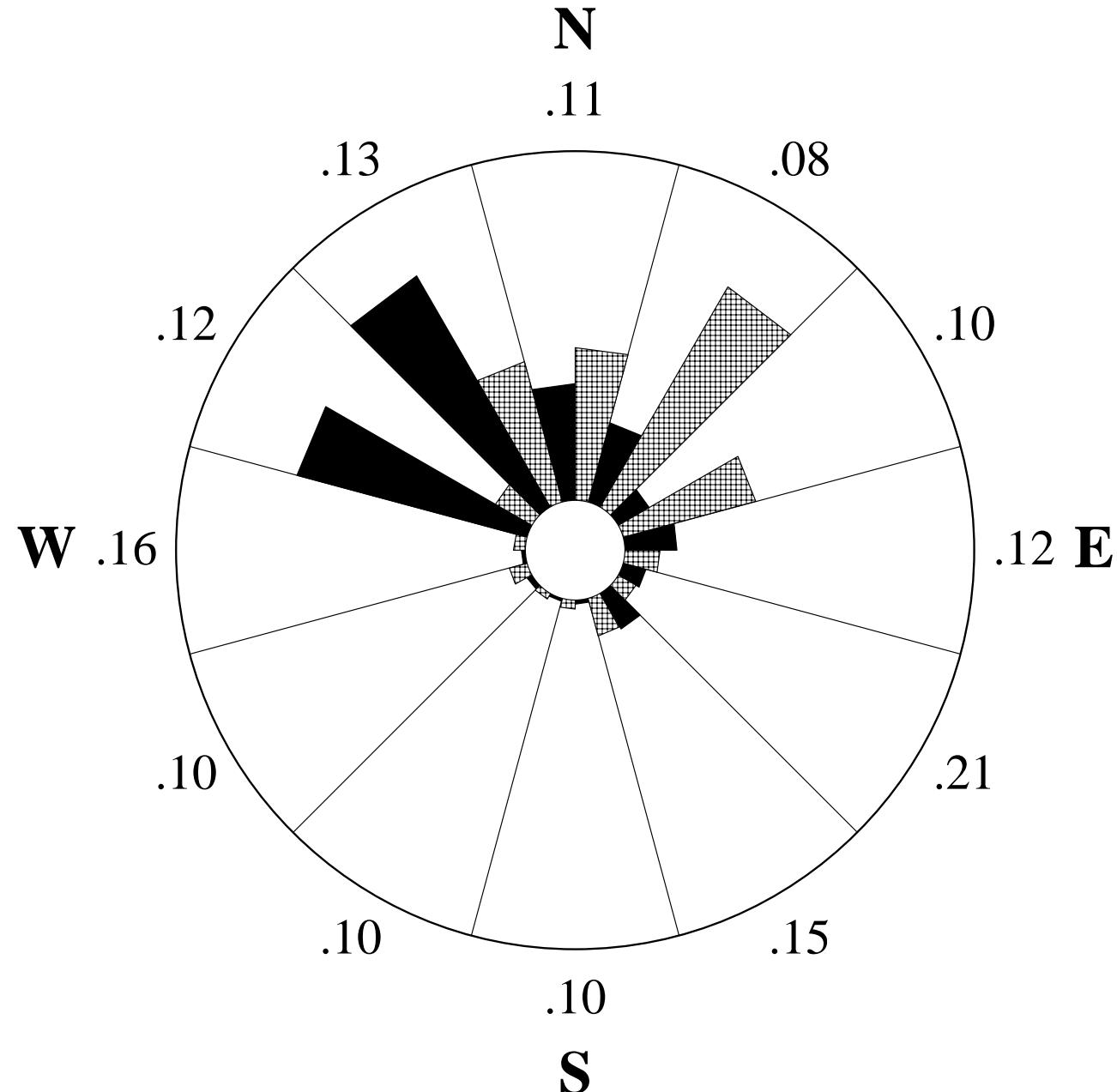
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

januar 2008**Hourly Averages Graph Ch 5**SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.9**



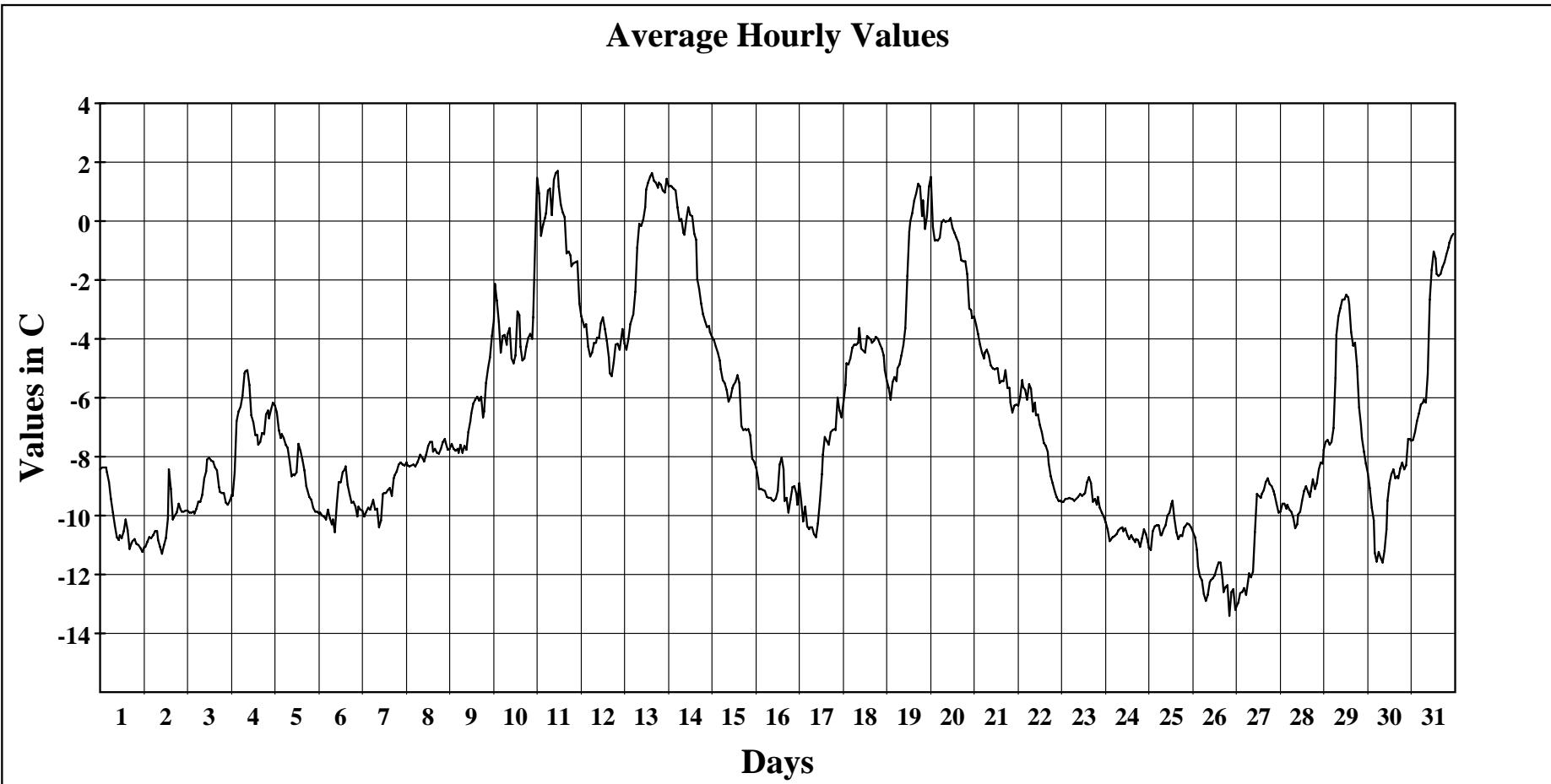


Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

januar 2008**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

februar 2008**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4152	4152	4152	4152	4152		4152	4152	4152			4152
Average Filtered Data	8.41	8.25	7.36	8.63	9.46		30.92	31.77	-6.46			13.67
Average for All Data	8.41	8.25	7.36	8.63	9.46		30.92	31.77	-6.46			13.67
Min Interval Average	0.3	0.3	0.3	0.2	1				-16.7			13
Date of Min Interval	03.02.2008	03.02.2008	03.02.2008	04.02.2008	03.02.2008				08.02.2008			02.02.2008
Time of Min Interval	01:20:00	01:40:00	01:20:00	09:40:00	01:20:00				13:50:00			15:00:00
Max Interval Average	26.3	25.5	23.7	27.1	28				4.9			15.1
Date of Max Interval	12.02.2008	12.02.2008	12.02.2008	12.02.2008	12.02.2008				15.02.2008			03.02.2008
Time of Max Interval	18:20:00	18:20:00	18:20:00	18:20:00	18:20:00				20:30:00			15:50:00
Average Interval SD	1.12	1.12	1.18	1.16	1.13		6.77	9.54	0.04			0.01
Min Sample	0.3	0.3	0.3	0.2	1				-17			12.8
Date of Min Sample	02.02.2008	01.02.2008	01.02.2008	02.02.2008	02.02.2008				08.02.2008			02.02.2008
Time of Min Sample	21:30:00	15:30:00	13:30:00	22:00:00	21:50:00				13:50:00			15:00:00
Max Sample	36	35.8	33.6	37	38.2				5.2			15.3
Date of Max Sample	12.02.2008	12.02.2008	12.02.2008	12.02.2008	12.02.2008				15.02.2008			22.02.2008
Time of Max Sample	17:10:00	17:00:00	17:00:00	17:10:00	17:10:00				19:10:00			11:00:00
Average Interval TI	0.15	0.15	0.18	0.14	0.12							
Wind Speed Direction							NNW	NNW				

Site Information:

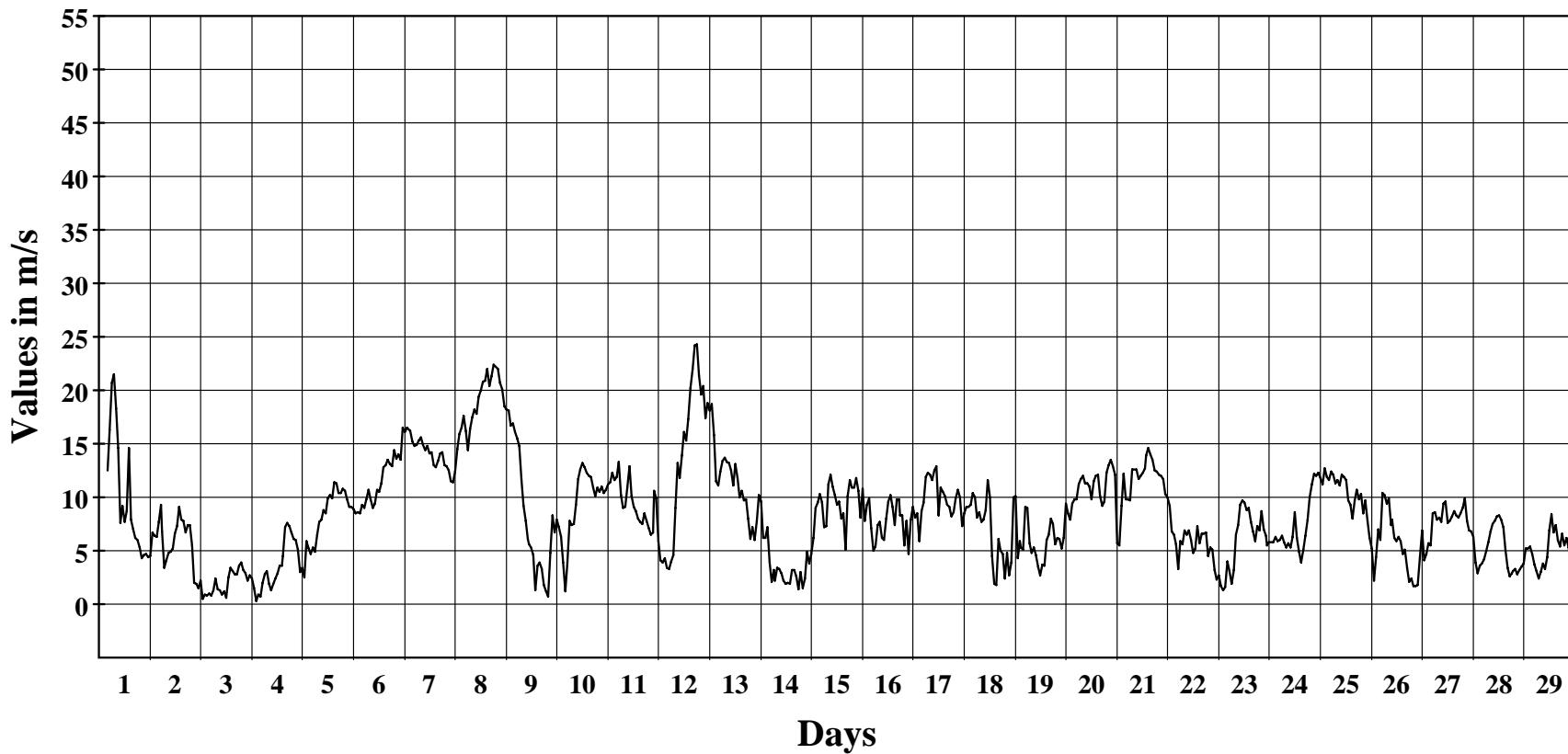
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

februar 2008

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

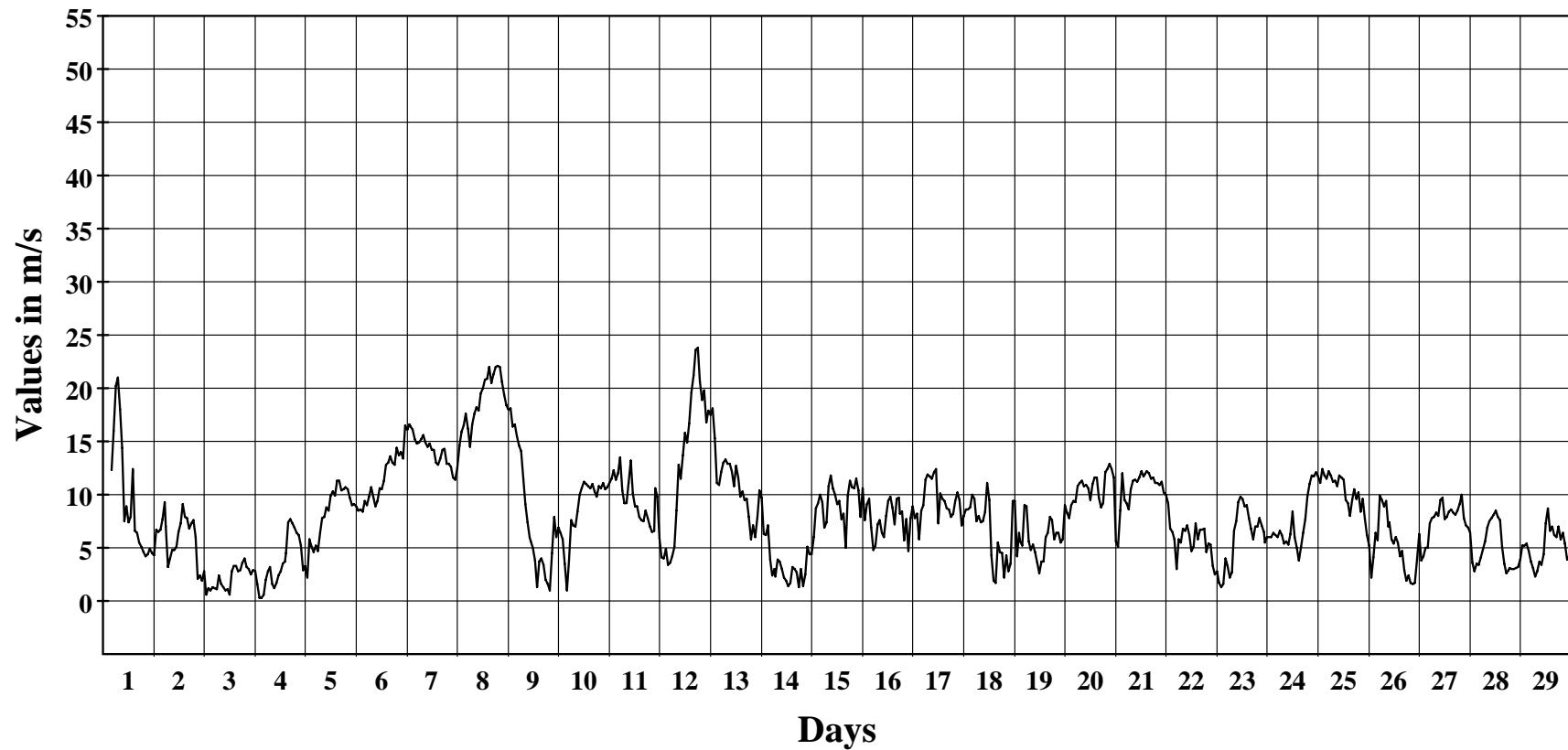
Average Hourly Values**Average Value: 8.4**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

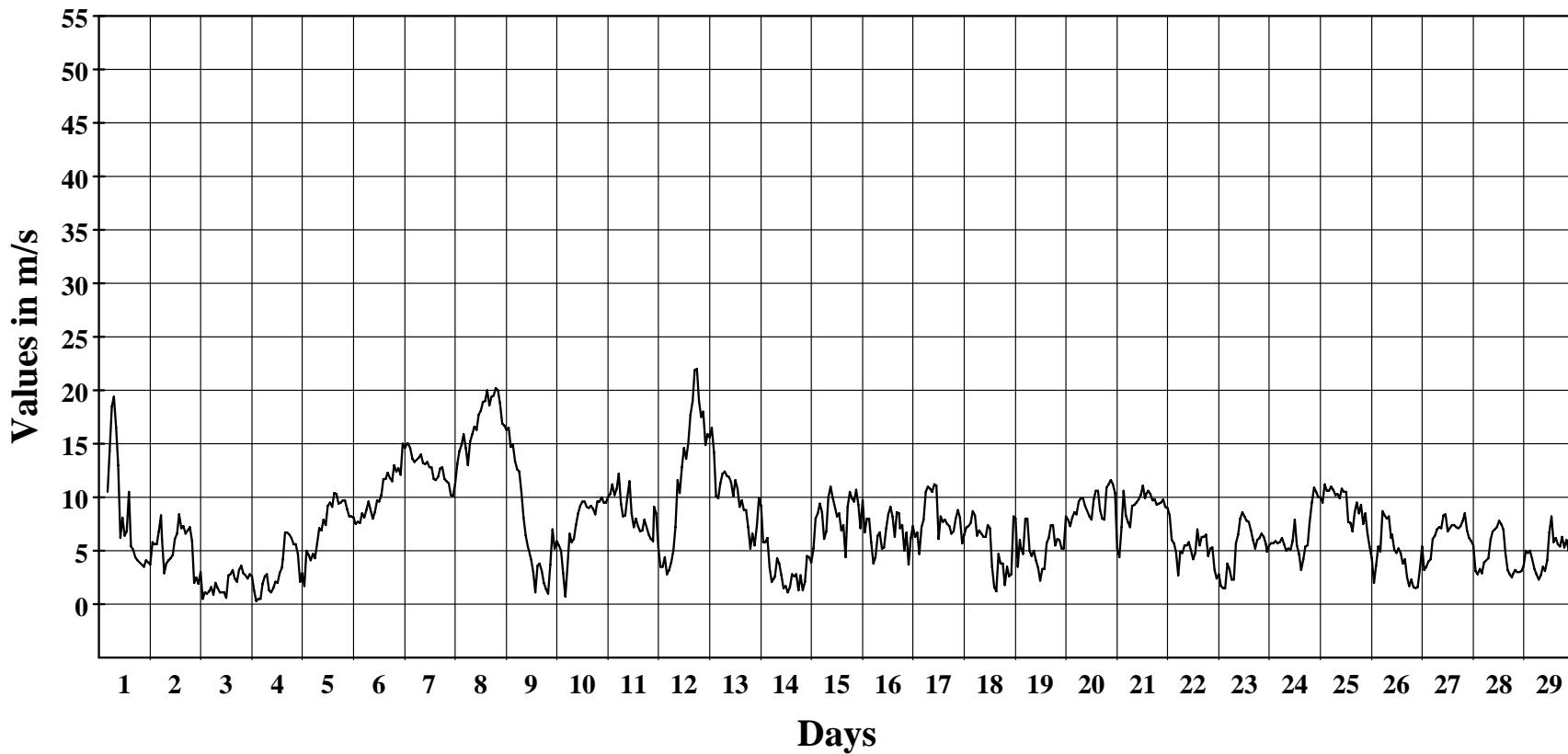
februar 2008**Hourly Averages Graph Ch 2**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 8.2**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

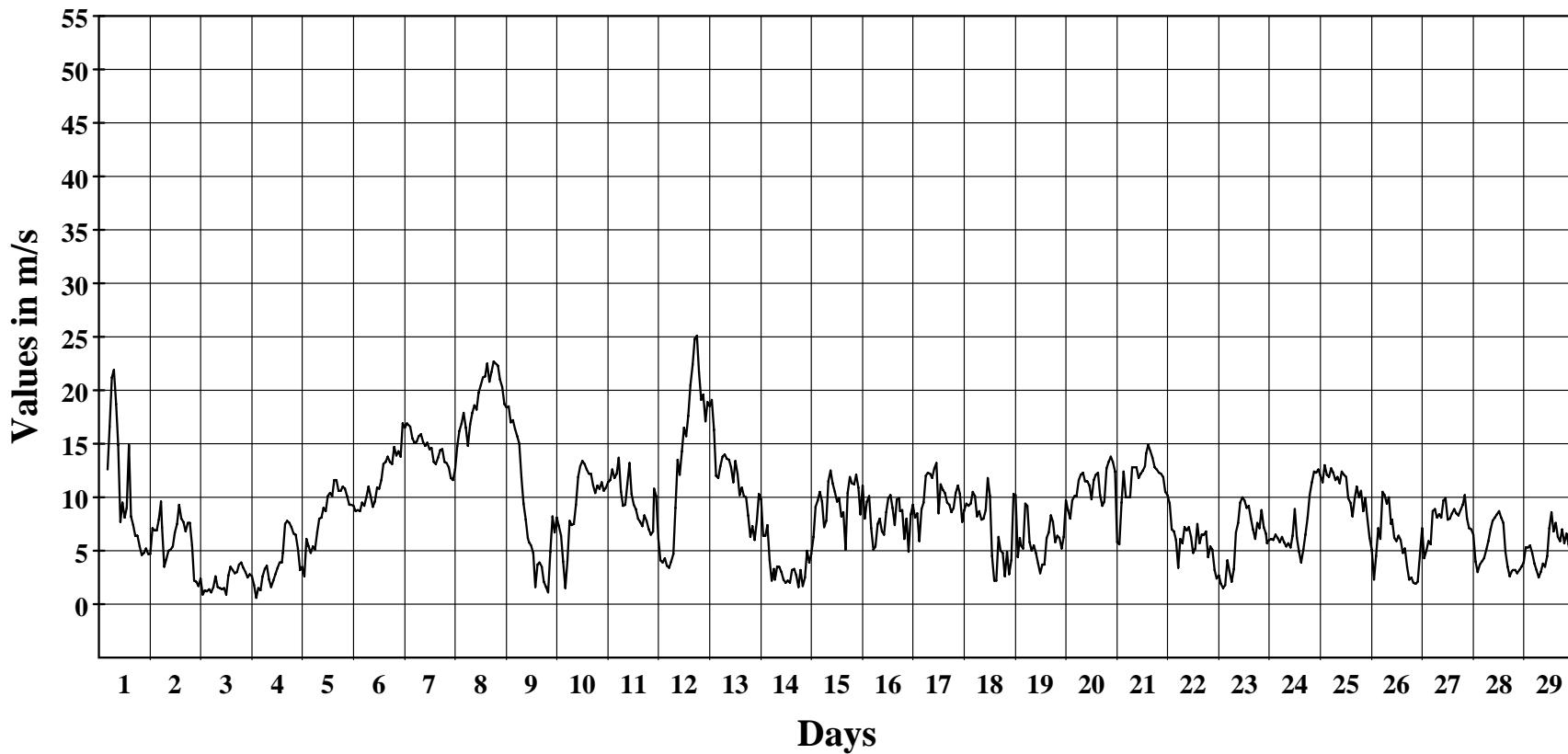
februar 2008**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.4**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

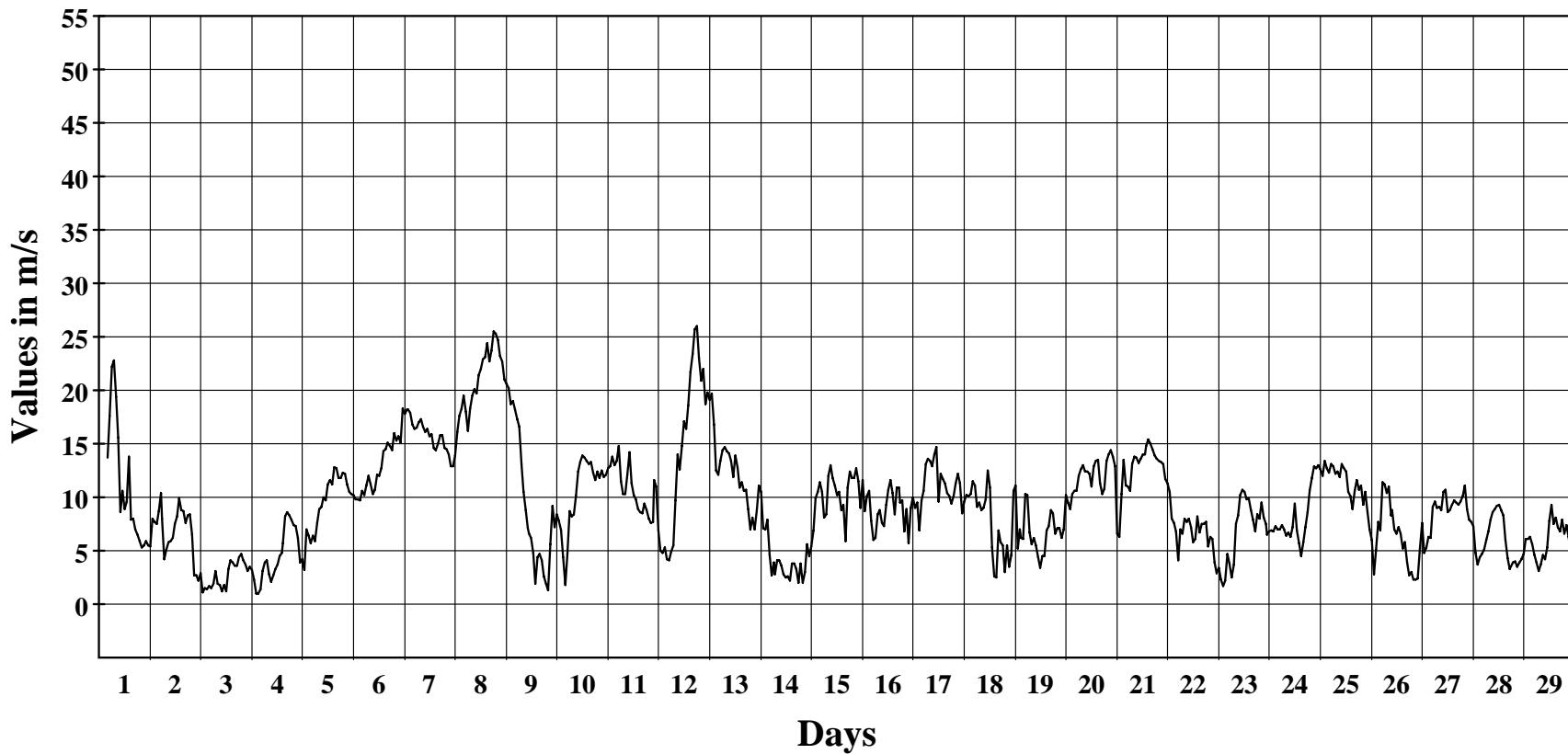
februar 2008**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 8.6**

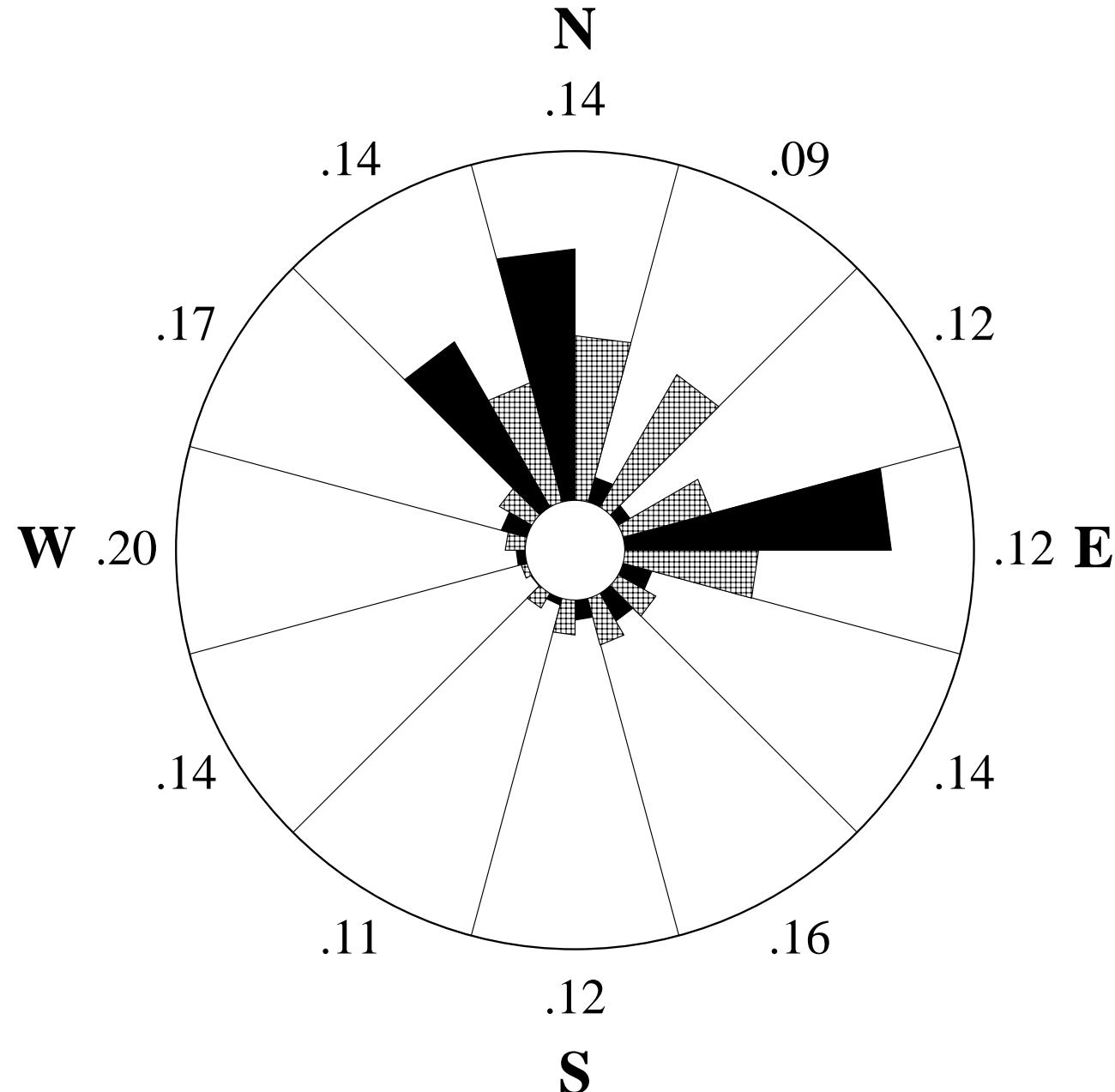
Site Information:

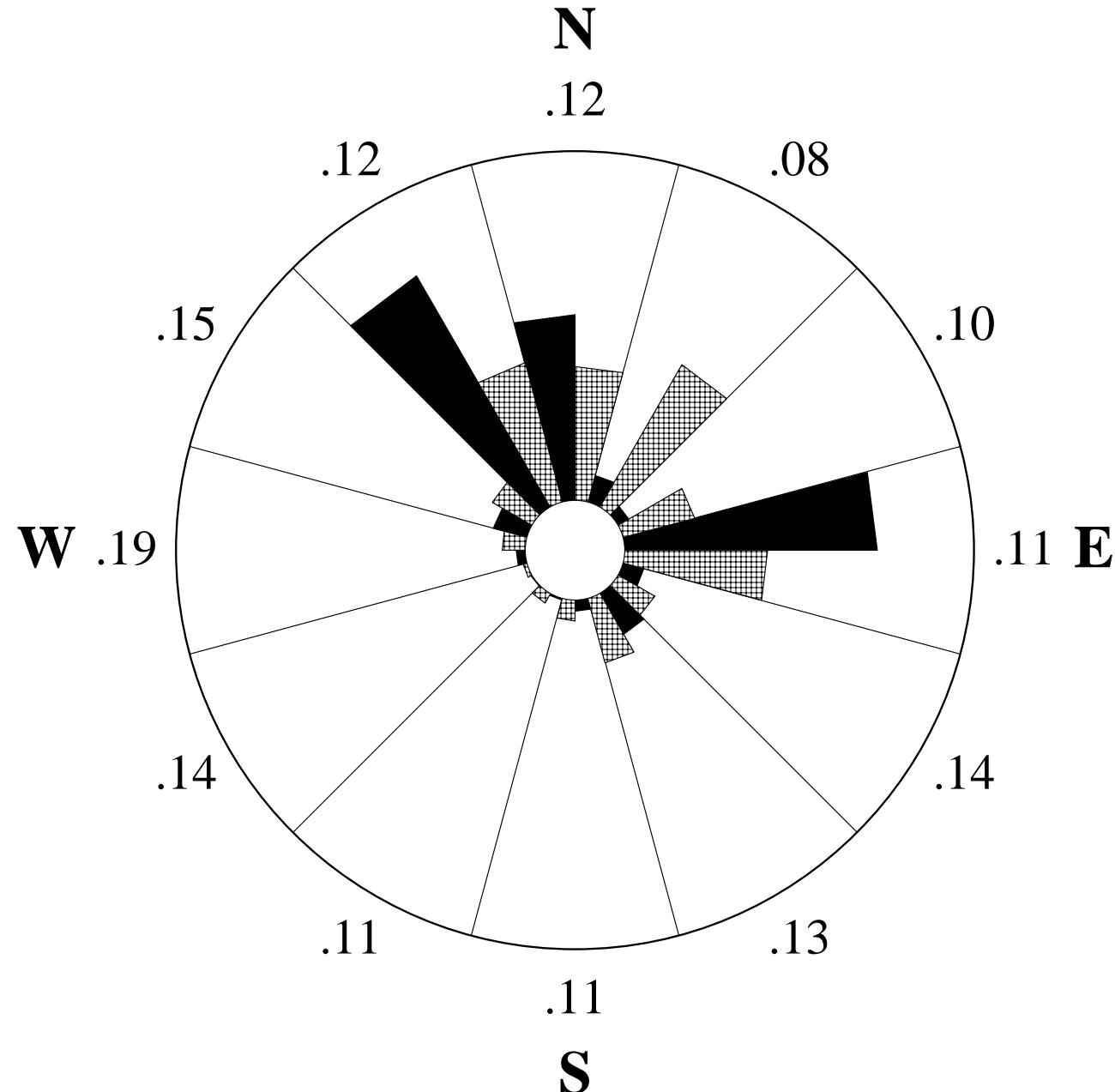
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

februar 2008**Hourly Averages Graph Ch 5**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 9.5**



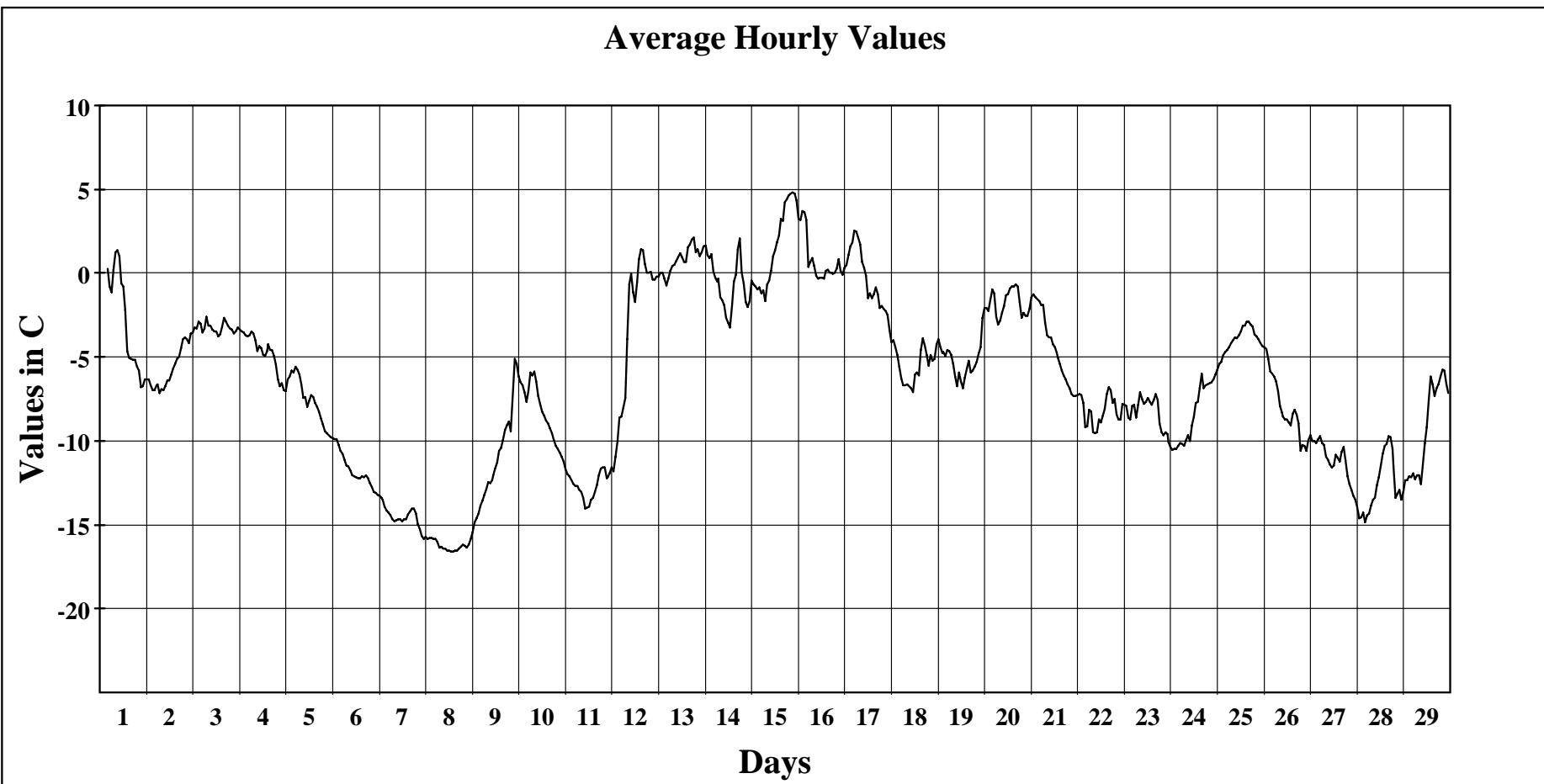


Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

februar 2008**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

mars 2008**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	7.24	7.18	6.1	7.44	8.22		37.09	42.8	-3.18			13.8
Average for All Data	7.24	7.18	6.1	7.44	8.22		37.09	42.8	-3.18			13.8
Min Interval Average	0.3	0.3	0.3	0.3	1				-14.7			13.3
Date of Min Interval	17.03.2008	17.03.2008	16.03.2008	28.03.2008	12.03.2008				10.03.2008			03.03.2008
Time of Min Interval	06:20:00	07:40:00	19:40:00	13:50:00	01:00:00				08:20:00			14:00:00
Max Interval Average	20.6	20.2	19.3	21.2	21.8				9.9			14.9
Date of Max Interval	05.03.2008	05.03.2008	05.03.2008	05.03.2008	05.03.2008				23.03.2008			10.03.2008
Time of Max Interval	11:10:00	11:10:00	11:10:00	11:10:00	11:10:00				14:40:00			10:30:00
Average Interval SD	0.93	0.94	0.98	0.96	0.94		5.61	8.61	0.04			0.01
Min Sample	0.3	0.3	0.3	0.2	1				-14.7			13.1
Date of Min Sample	03.03.2008	03.03.2008	03.03.2008	03.03.2008	03.03.2008				10.03.2008			03.03.2008
Time of Min Sample	12:50:00	02:20:00	02:20:00	12:50:00	12:50:00				08:10:00			14:00:00
Max Sample	26.9	28.2	28.7	26.9	31				10.5			15.5
Date of Max Sample	09.03.2008	09.03.2008	09.03.2008	05.03.2008	09.03.2008				23.03.2008			10.03.2008
Time of Max Sample	12:30:00	12:30:00	12:30:00	11:20:00	12:30:00				14:40:00			10:20:00
Average Interval TI	0.15	0.15	0.17	0.14	0.12							
Wind Speed Direction							NN	NE				

Site Information:

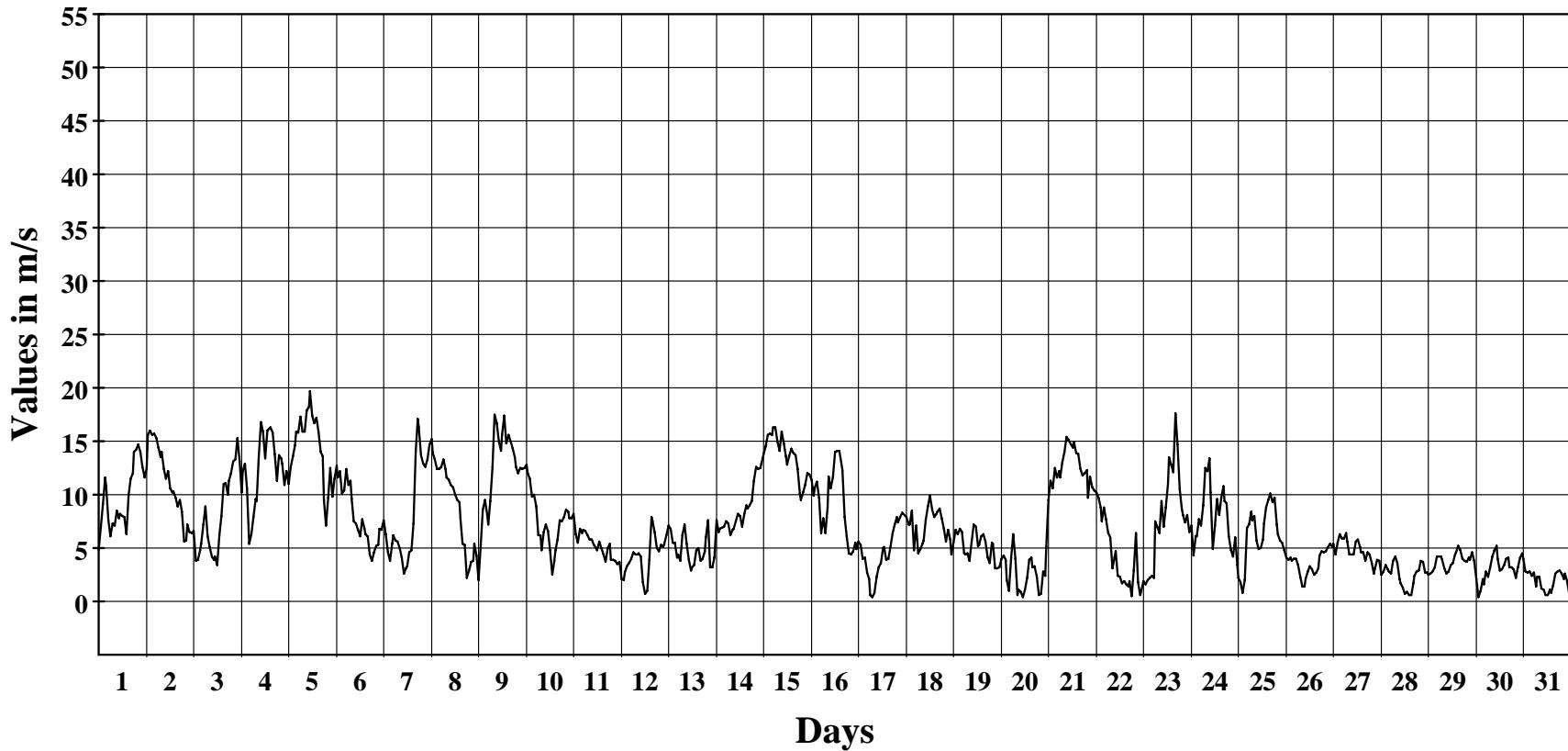
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

mars 2008

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

Average Hourly Values

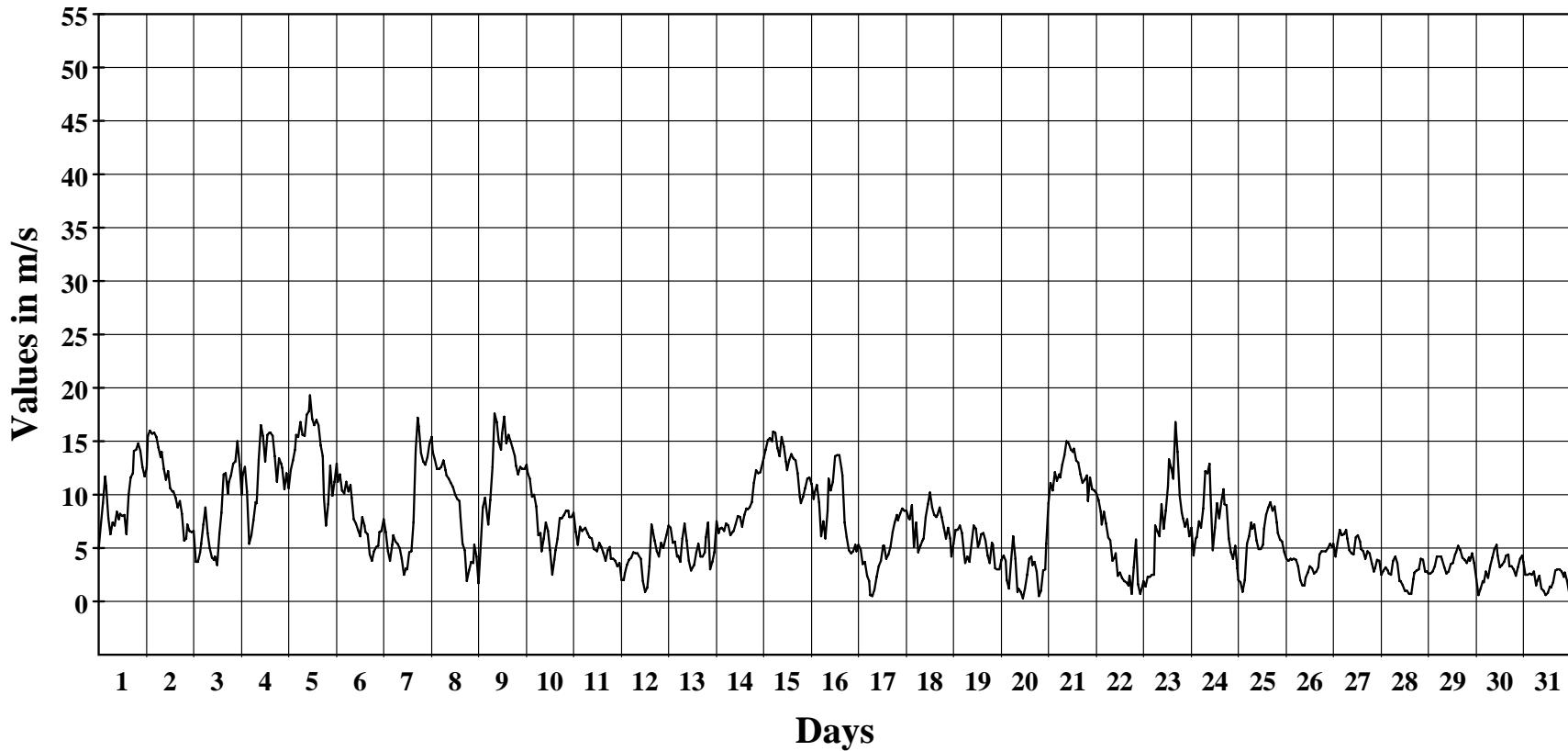
Average Value: 7.2

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

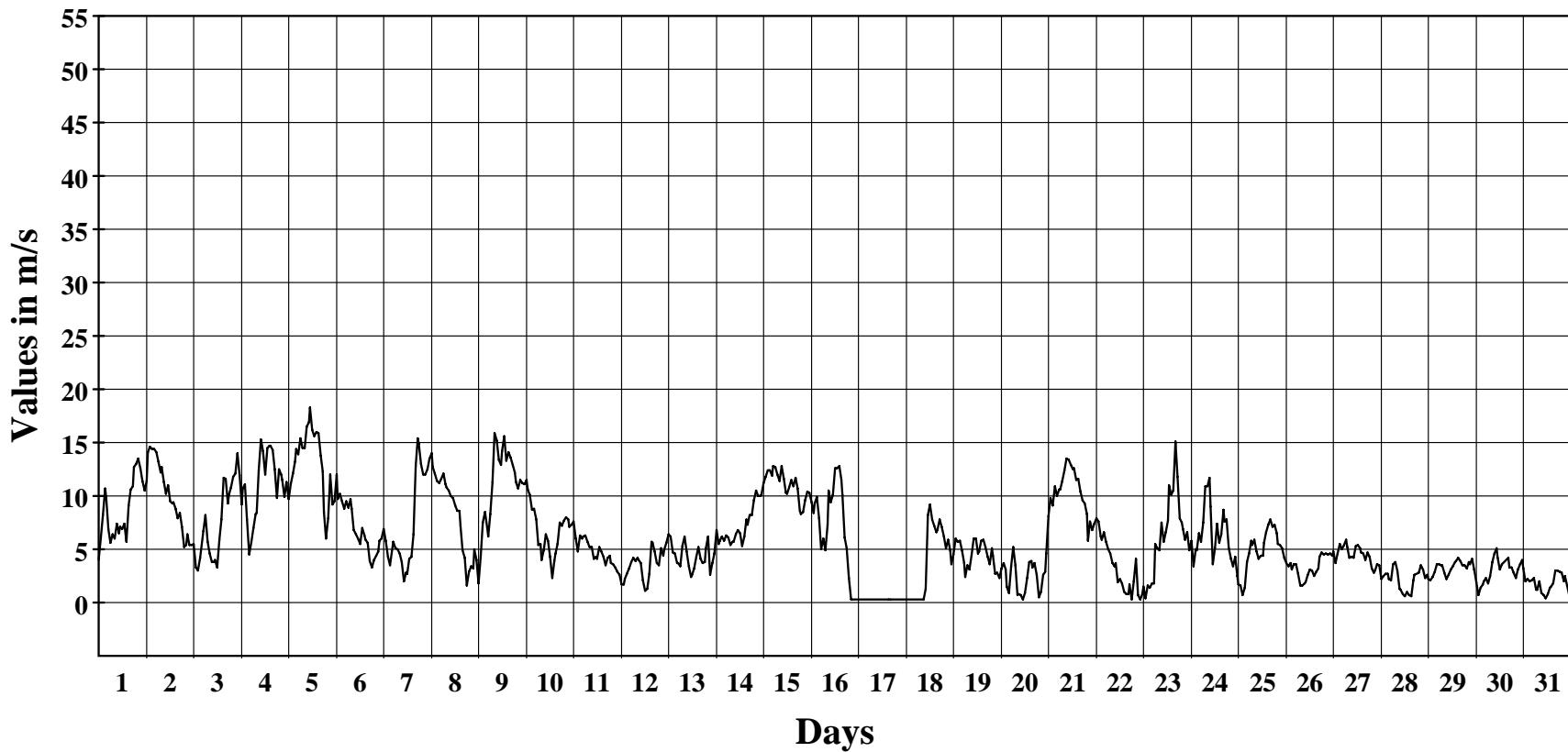
mars 2008**Hourly Averages Graph Ch 2**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.2**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

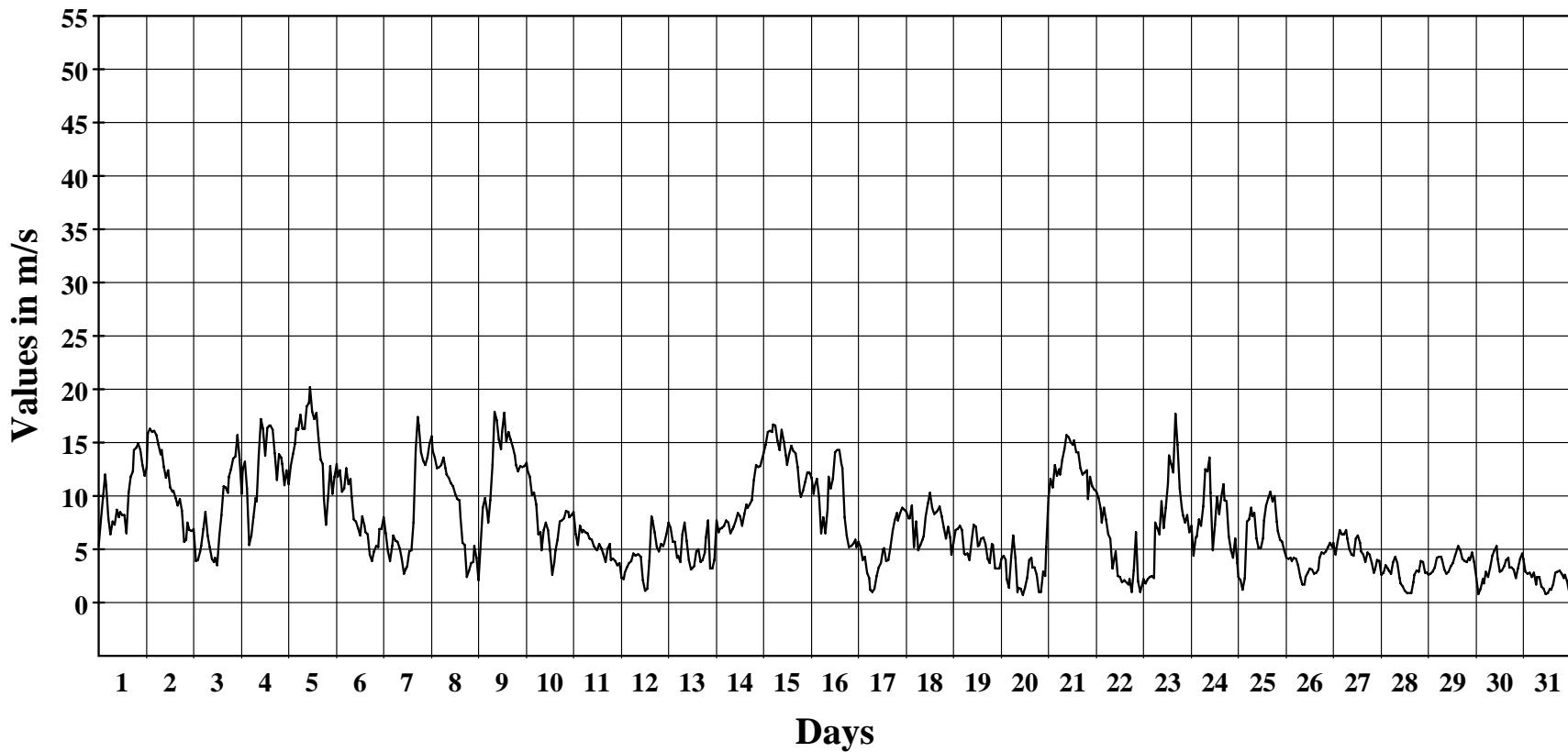
mars 2008**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 6.1**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

mars 2008**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.4**

Site Information:

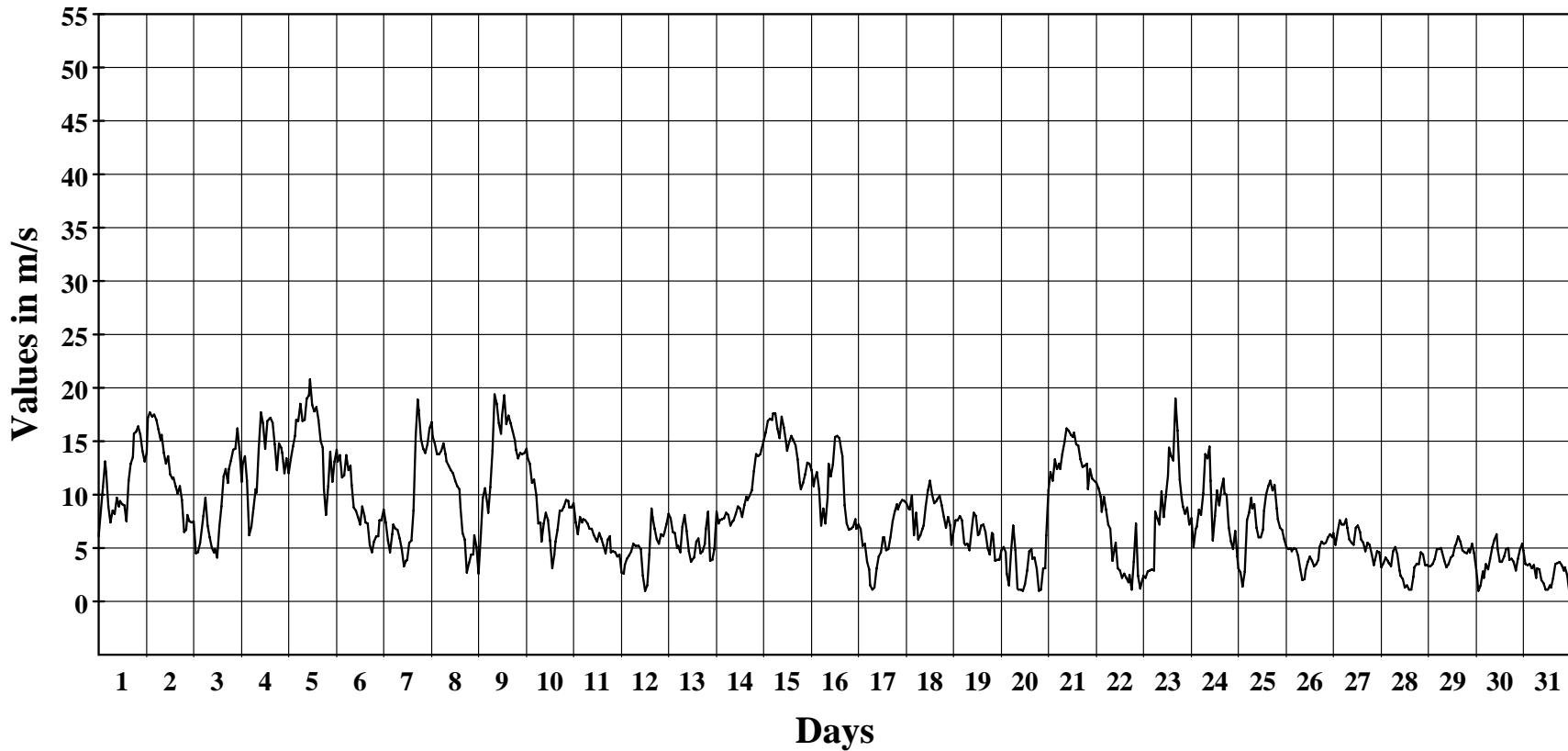
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 5:

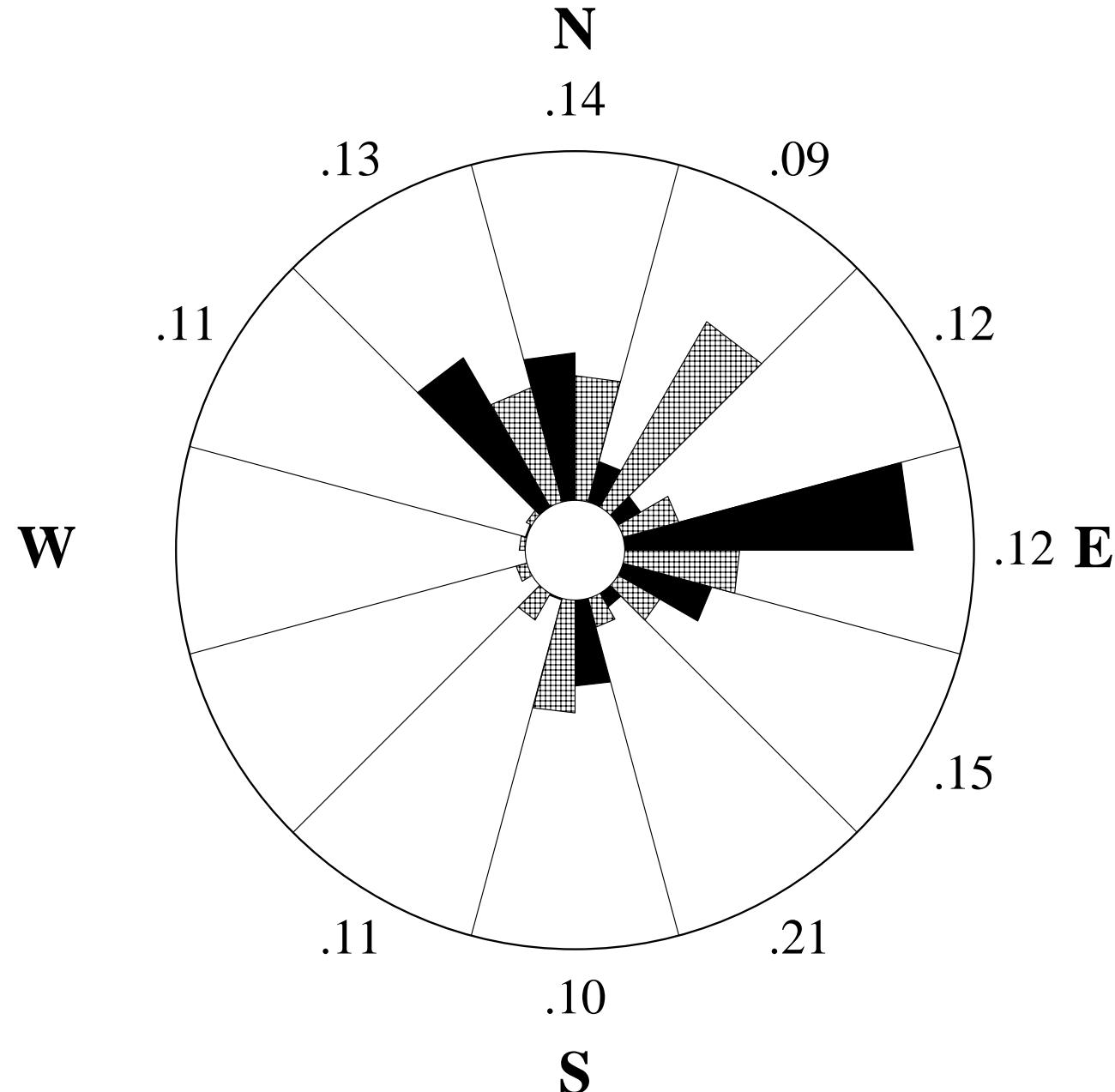
NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

mars 2008

Hourly Averages Graph Ch 5
SITE 1601
Nanortalik

Average Hourly Values

Average Value: 8.2



mars 2008

Wind Rose Ch 1, 8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

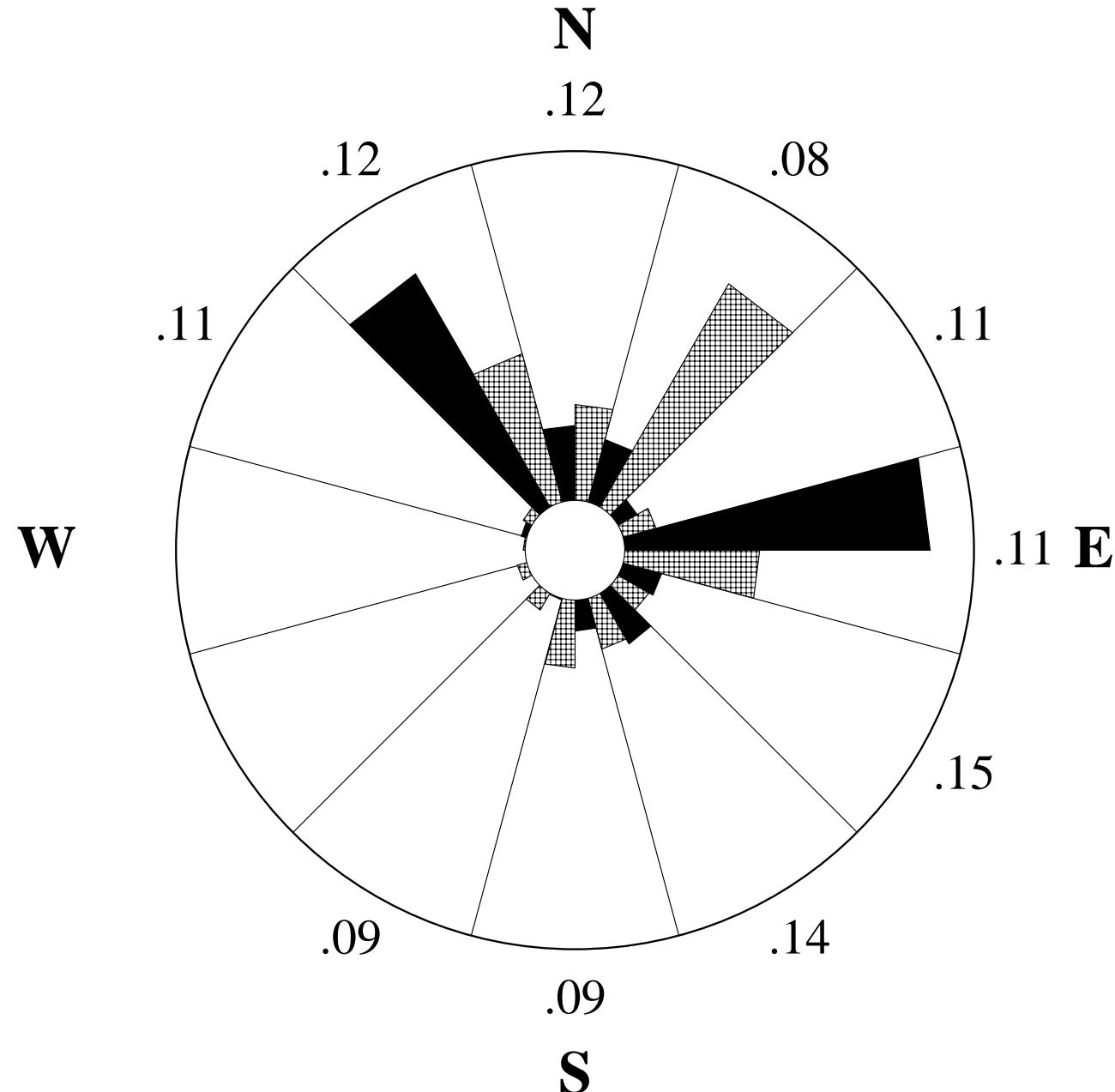
Outer Numbers are Average TIs
for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 40%

Percent of Total Wind Energy

Percent of Total Time

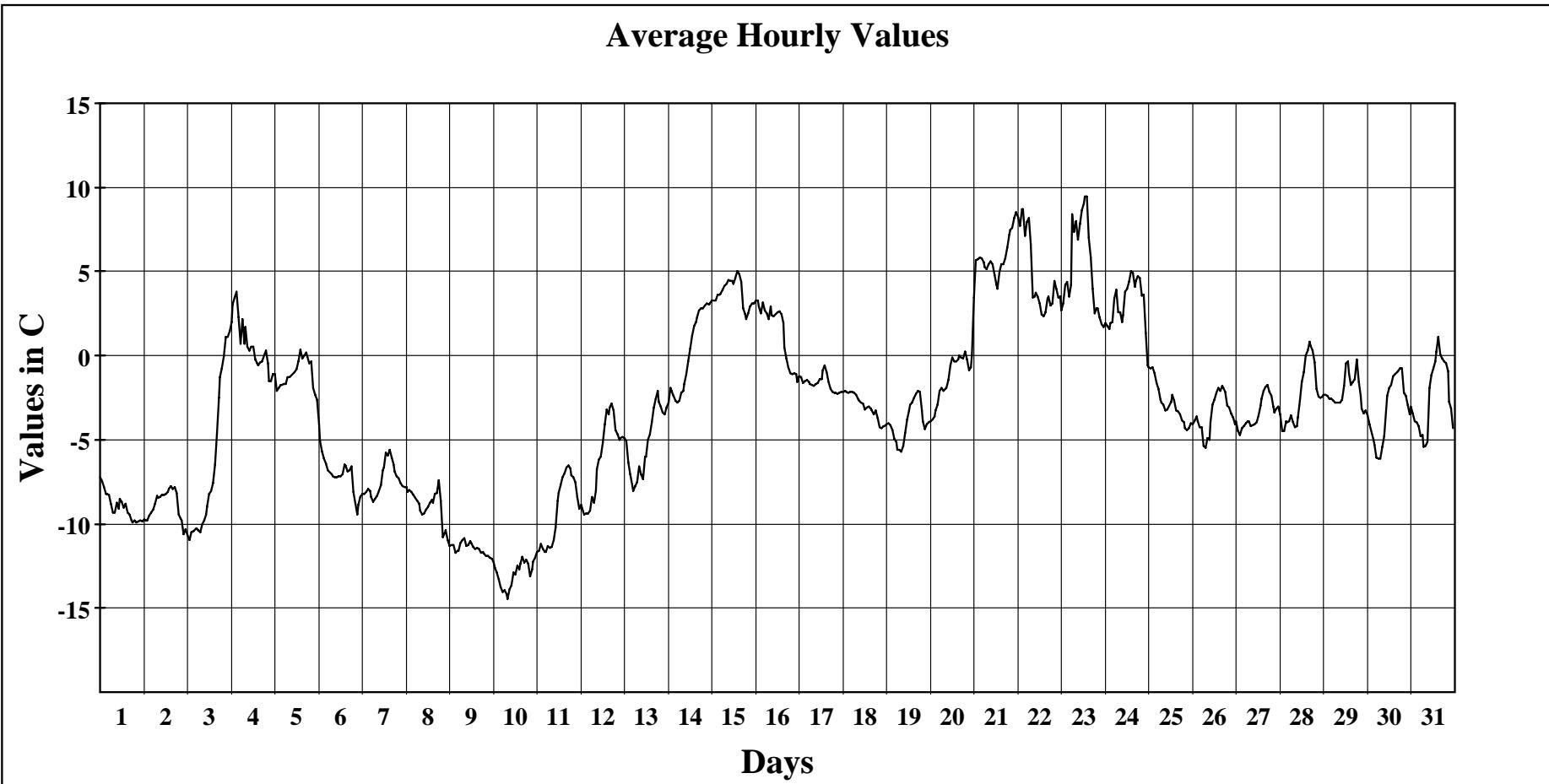


Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

mars 2008**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

april 2008**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4320	4320	4320	4320	4320		4320	4320	4320			4320
Average Filtered Data	5.65	5.68	4.95	5.91	6.67		48.77	47.22	1.52			13.85
Average for All Data	5.65	5.68	4.95	5.91	6.67		48.77	47.22	1.52			13.85
Min Interval Average	0.3	0.3	0.3	0.2	1				-6			13.2
Date of Min Interval	02.04.2008	02.04.2008	02.04.2008	02.04.2008	02.04.2008				01.04.2008			05.04.2008
Time of Min Interval	17:30:00	21:10:00	21:10:00	22:30:00	15:30:00				02:50:00			14:00:00
Max Interval Average	21.5	20.9	18.1	22	23				10.7			14.7
Date of Max Interval	04.04.2008	04.04.2008	04.04.2008	04.04.2008	04.04.2008				15.04.2008			01.04.2008
Time of Max Interval	03:40:00	03:40:00	01:50:00	03:40:00	03:40:00				12:50:00			11:10:00
Average Interval SD	0.72	0.73	0.82	0.75	0.73		4.87	9.66	0.05			0
Min Sample	0.3	0.3	0.3	0.2	1				-6.2			13.1
Date of Min Sample	01.04.2008	01.04.2008	01.04.2008	02.04.2008	01.04.2008				01.04.2008			05.04.2008
Time of Min Sample	00:00:00	09:20:00	00:00:00	15:30:00	00:00:00				02:50:00			14:00:00
Max Sample	31.1	29.7	27.1	32.2	34.2				11.1			15.2
Date of Max Sample	14.04.2008	14.04.2008	14.04.2008	14.04.2008	14.04.2008				15.04.2008			02.04.2008
Time of Max Sample	18:20:00	17:40:00	17:40:00	18:20:00	18:20:00				12:50:00			09:50:00
Average Interval TI	0.16	0.16	0.19	0.15	0.11							
Wind Speed Direction							NN	NN				

Site Information:

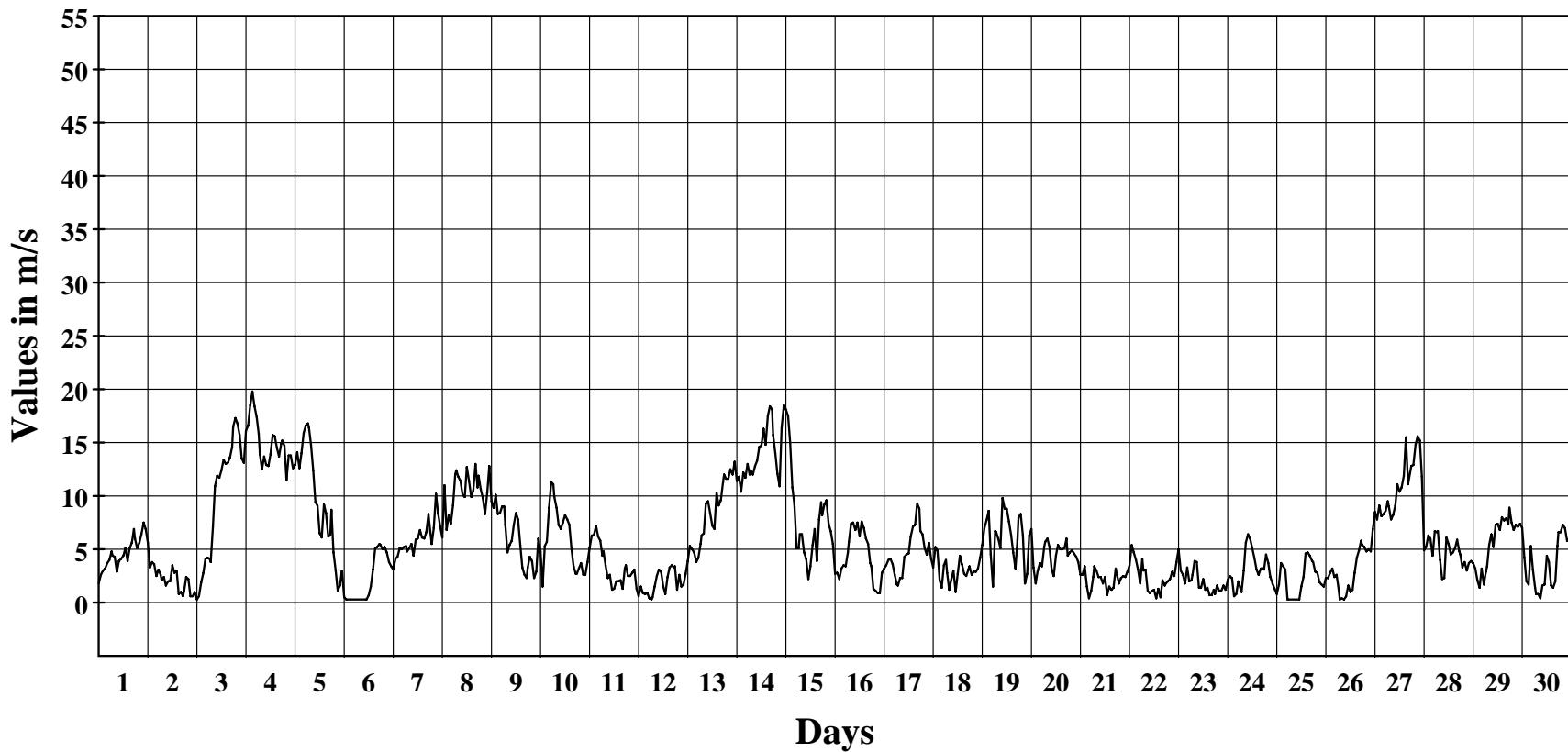
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

april 2008

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 5.7**

Site Information:

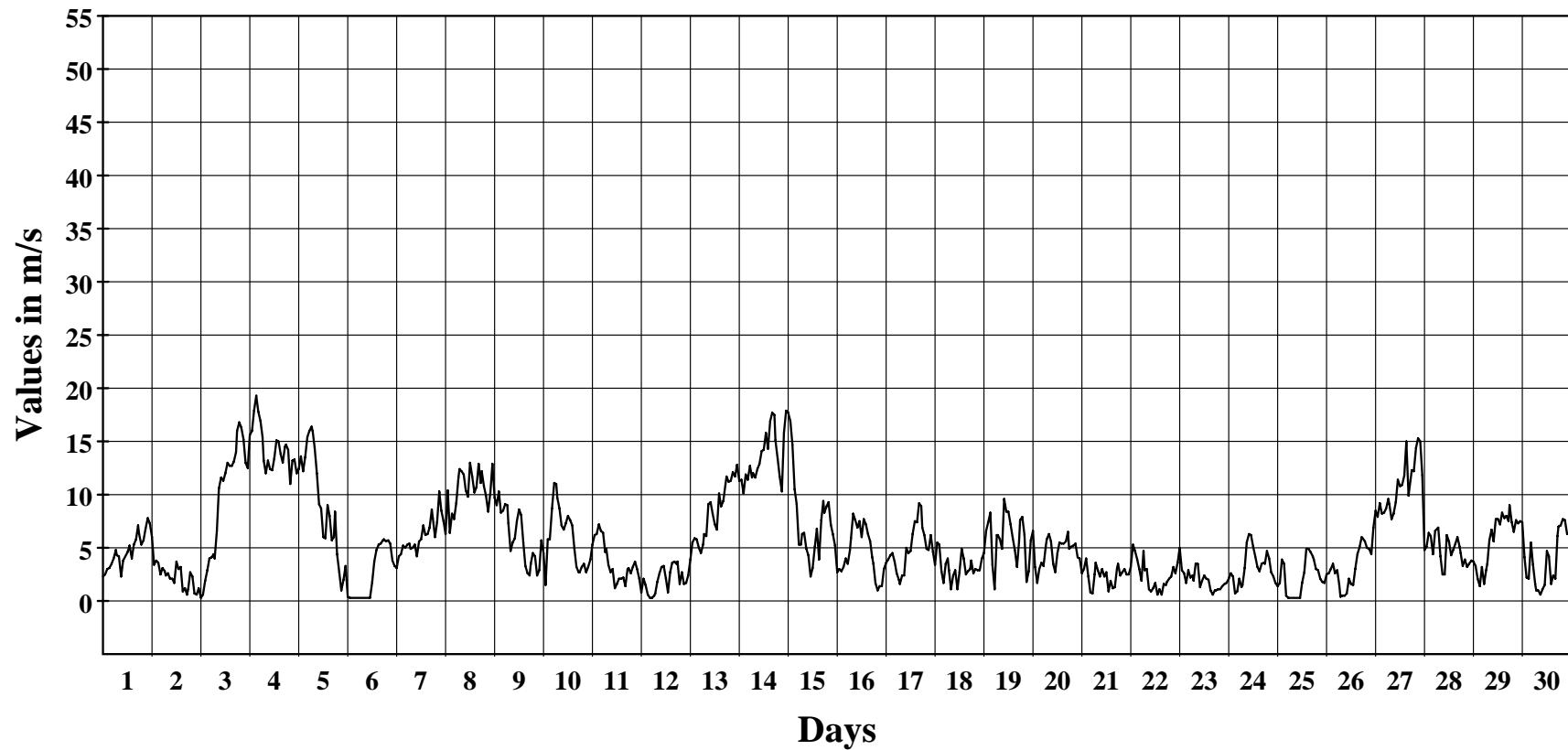
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

april 2008

Hourly Averages Graph Ch 2
SITE 1601
Nanortalik

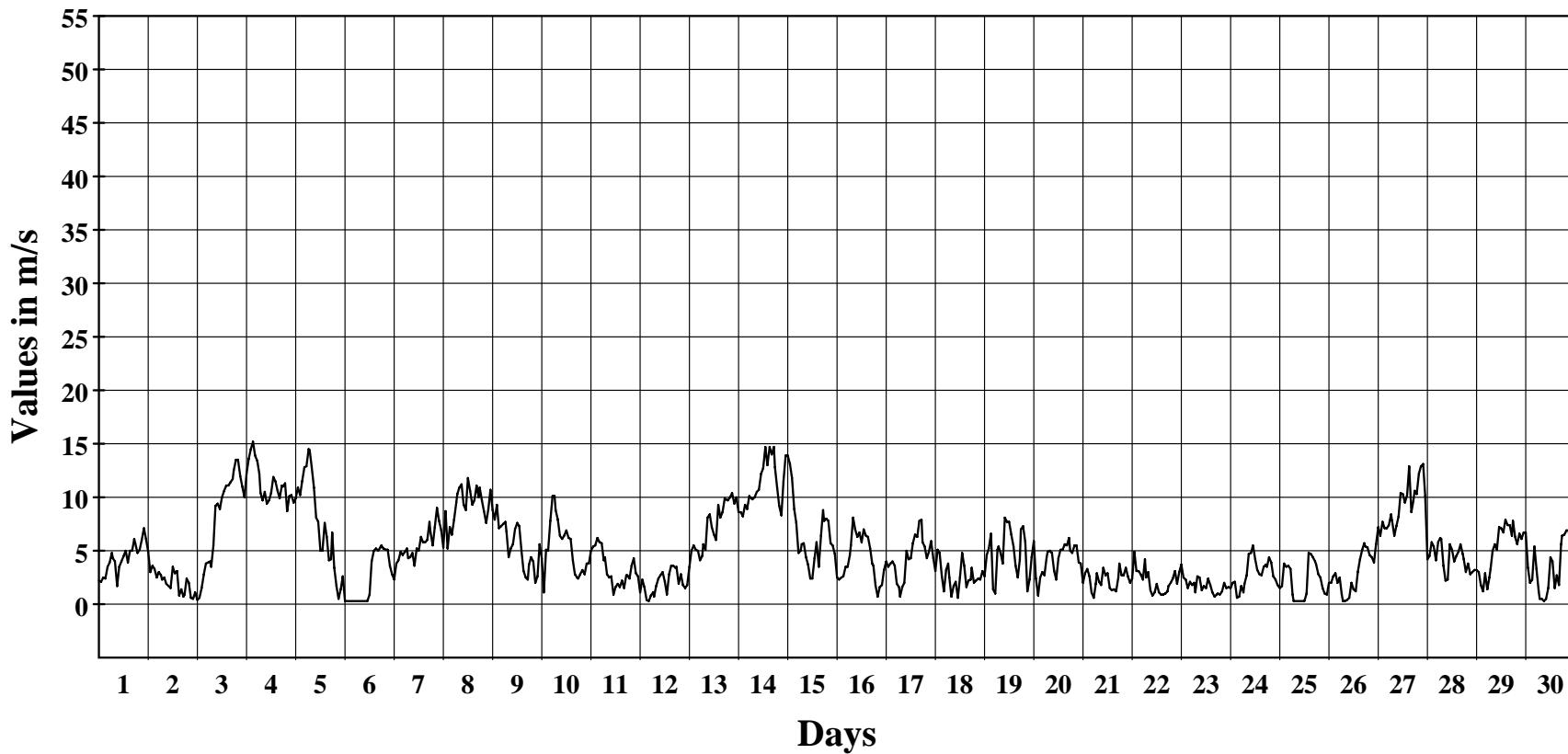
Average Hourly Values**Average Value: 5.7**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

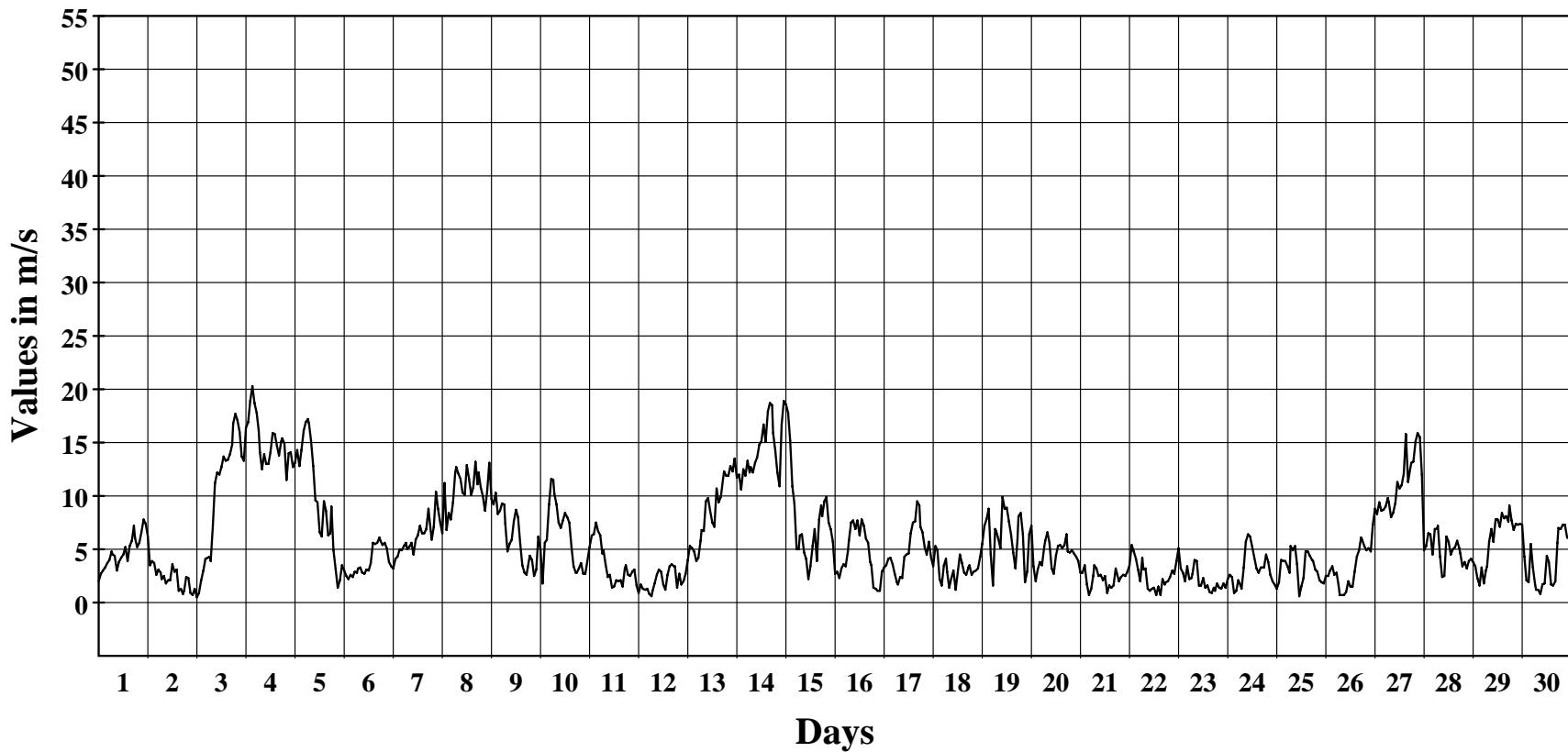
april 2008**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 4.9**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

april 2008**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.9**

Site Information:

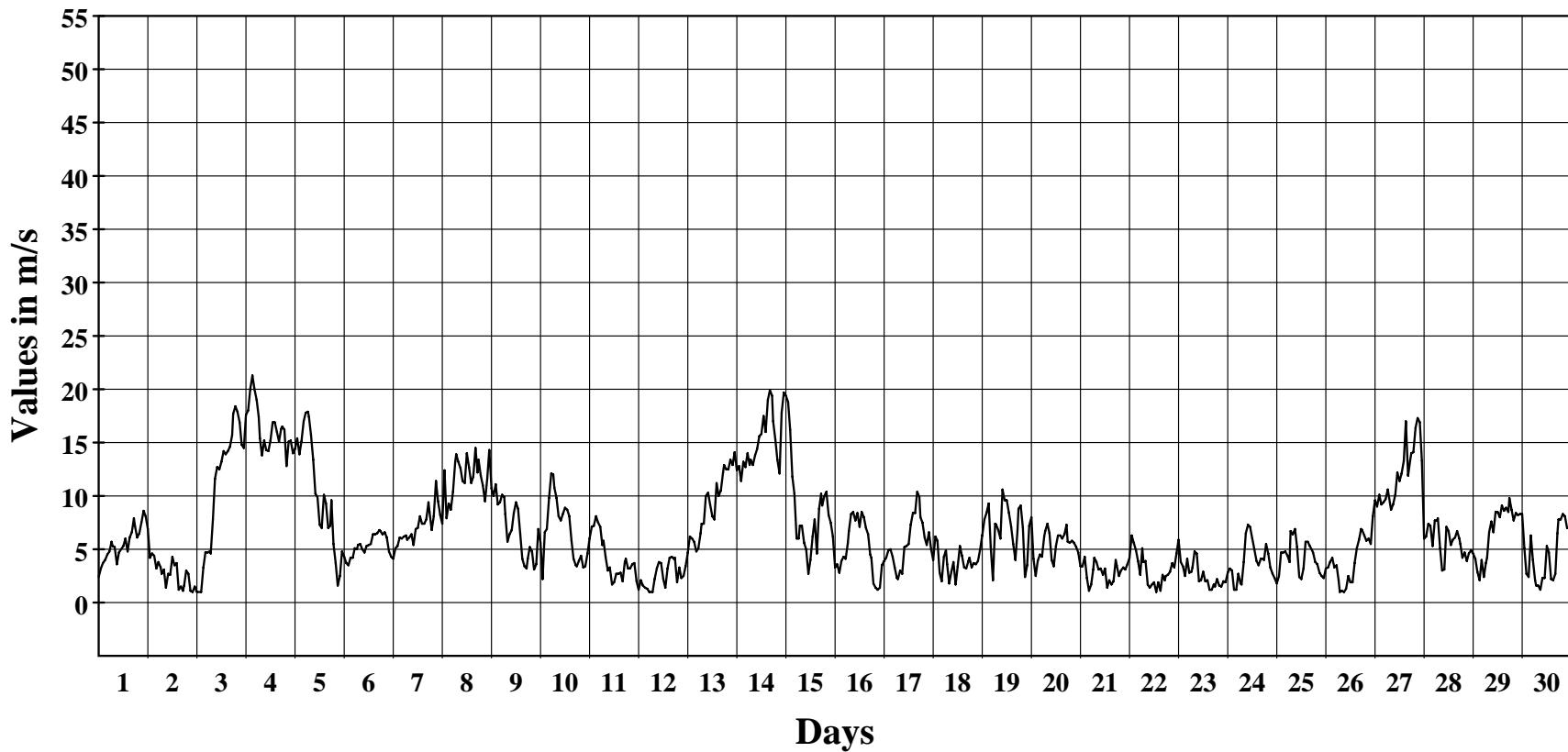
Project: Nanortalik kommune
Location: Grønland
Elevation:

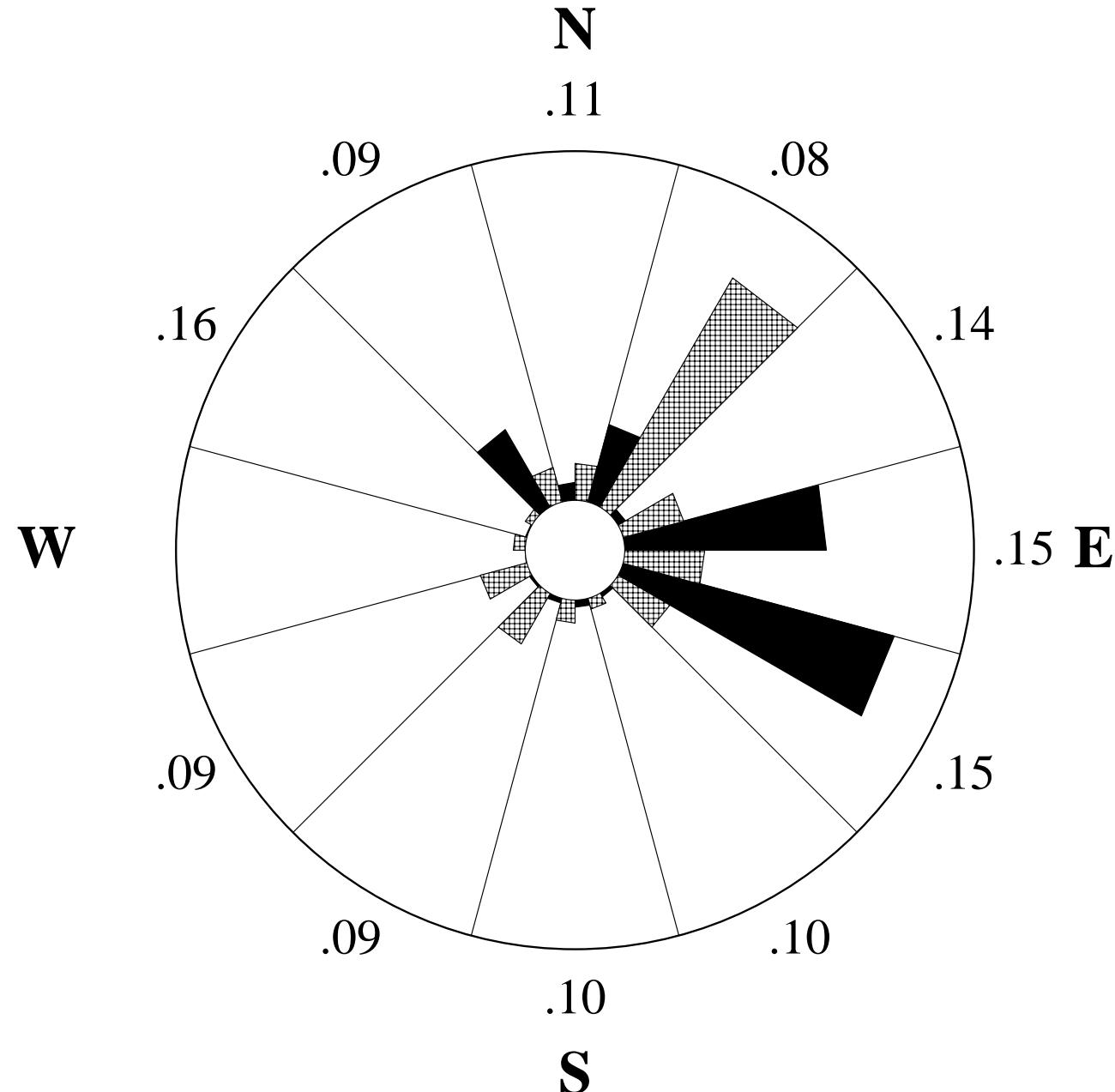
Sensor on channel 5:

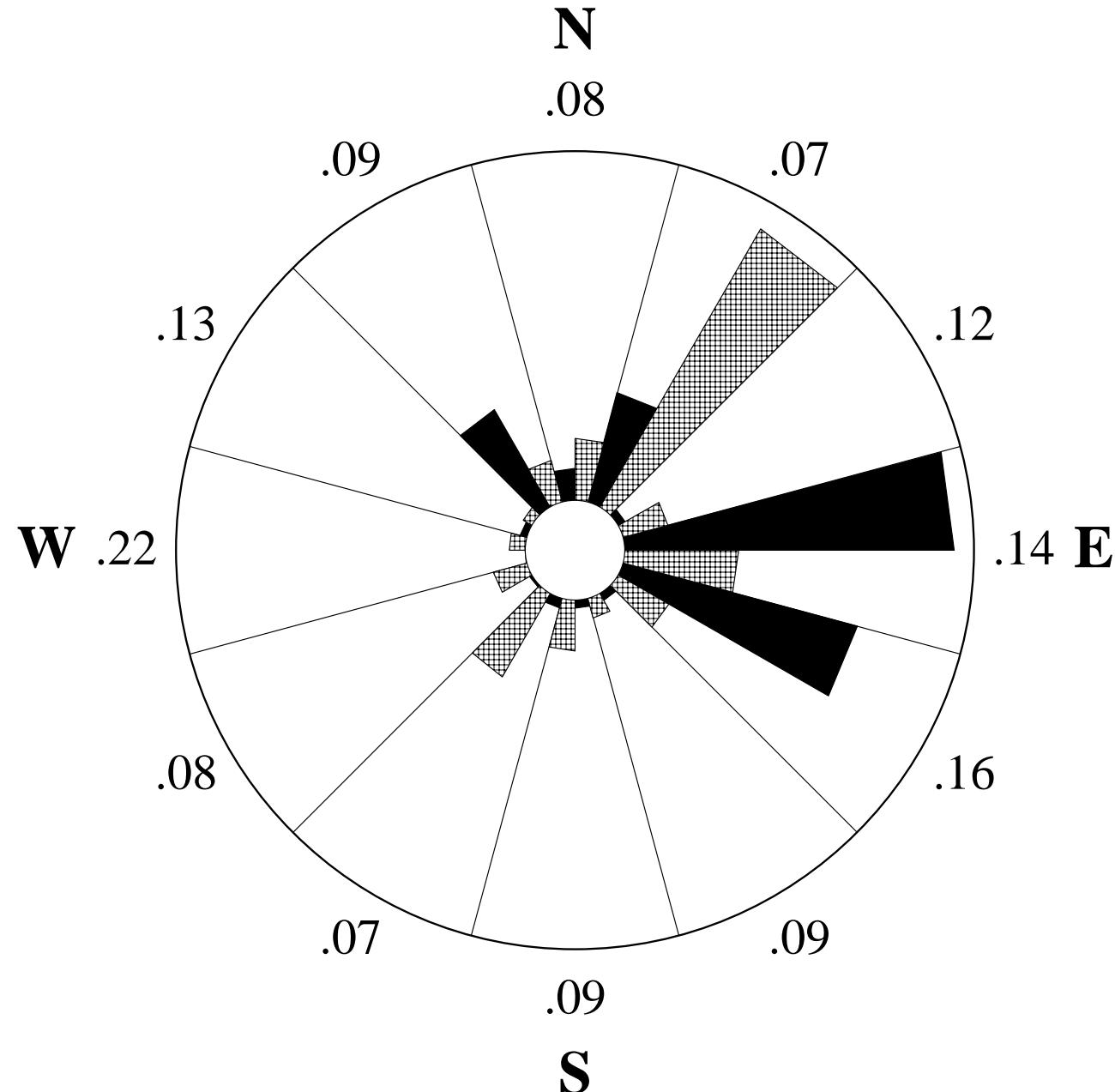
NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

april 2008

Hourly Averages Graph Ch 5
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 6.7**



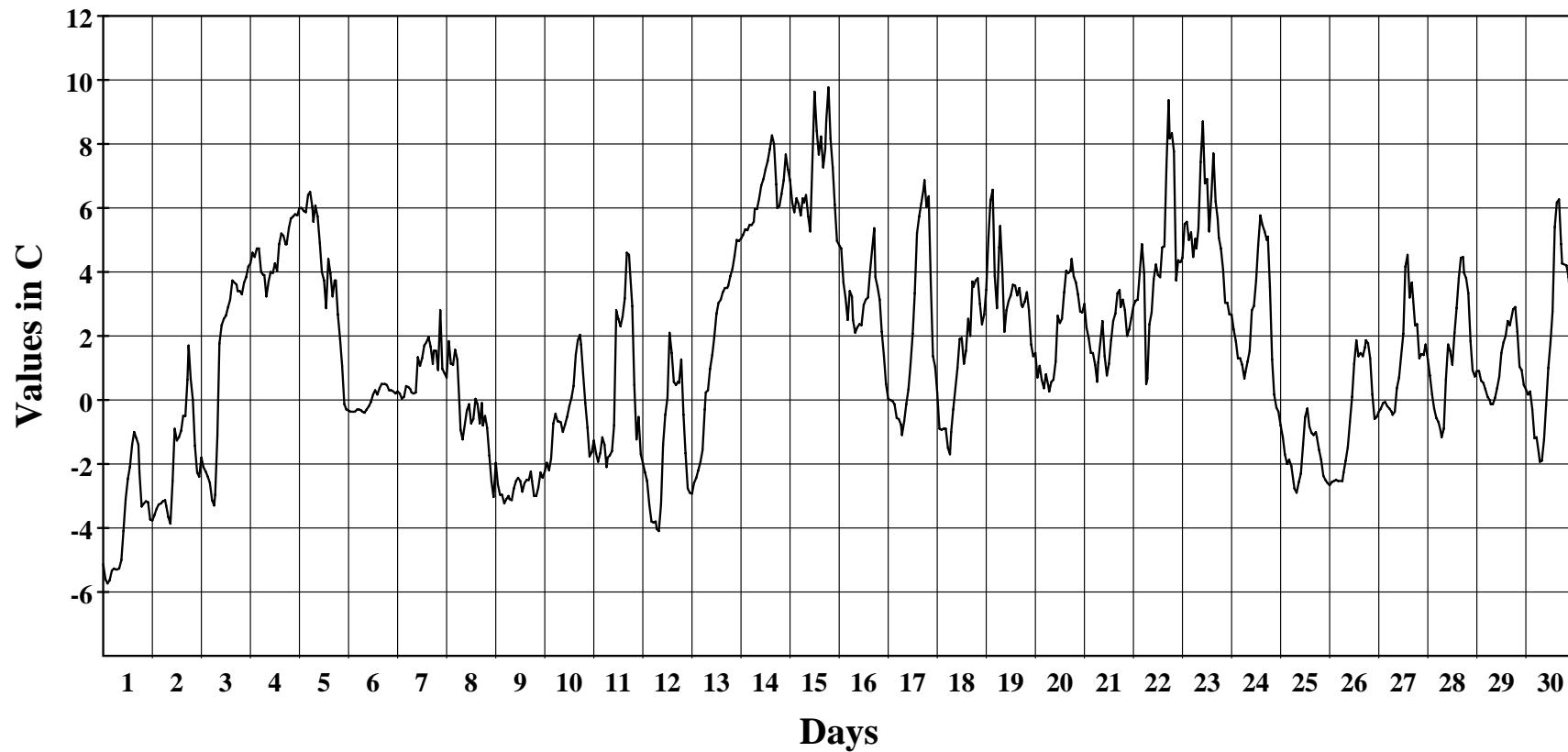


Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

april 2008**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 1.5**

Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

mai 2008**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	4.96	5.01	4.45	5.09	5.79		107.74	87.56	3.82			13.87
Average for All Data	4.96	5.01	4.45	5.09	5.79		107.74	87.56	3.82			13.87
Min Interval Average	0.3	0.3	0.3	0.2	1				-2.2			13.2
Date of Min Interval	01.05.2008	02.05.2008	01.05.2008	11.05.2008	01.05.2008				16.05.2008			27.05.2008
Time of Min Interval	03:40:00	03:20:00	02:20:00	05:40:00	03:00:00				06:00:00			14:00:00
Max Interval Average	21.4	20.7	18.3	21.8	22.7				13.7			14.6
Date of Max Interval	24.05.2008	24.05.2008	24.05.2008	24.05.2008	24.05.2008				24.05.2008			01.05.2008
Time of Max Interval	23:20:00	23:20:00	23:20:00	23:20:00	23:20:00				16:30:00			08:40:00
Average Interval SD	0.64	0.65	0.72	0.65	0.63		4.44	10.85	0.06			0
Min Sample	0.3	0.3	0.3	0.2	1				-2.5			13
Date of Min Sample	01.05.2008	01.05.2008	01.05.2008	01.05.2008	01.05.2008				16.05.2008			27.05.2008
Time of Min Sample	02:30:00	02:20:00	02:10:00	02:30:00	02:30:00				06:00:00			14:00:00
Max Sample	29.1	29	26.8	30.1	31.6				14.6			15.1
Date of Max Sample	24.05.2008	24.05.2008	25.05.2008	24.05.2008	24.05.2008				24.05.2008			01.05.2008
Time of Max Sample	23:20:00	23:20:00	02:50:00	23:20:00	23:20:00				16:30:00			08:40:00
Average Interval TI	0.17	0.17	0.2	0.16	0.12							
Wind Speed Direction							NN	NN				

Site Information:

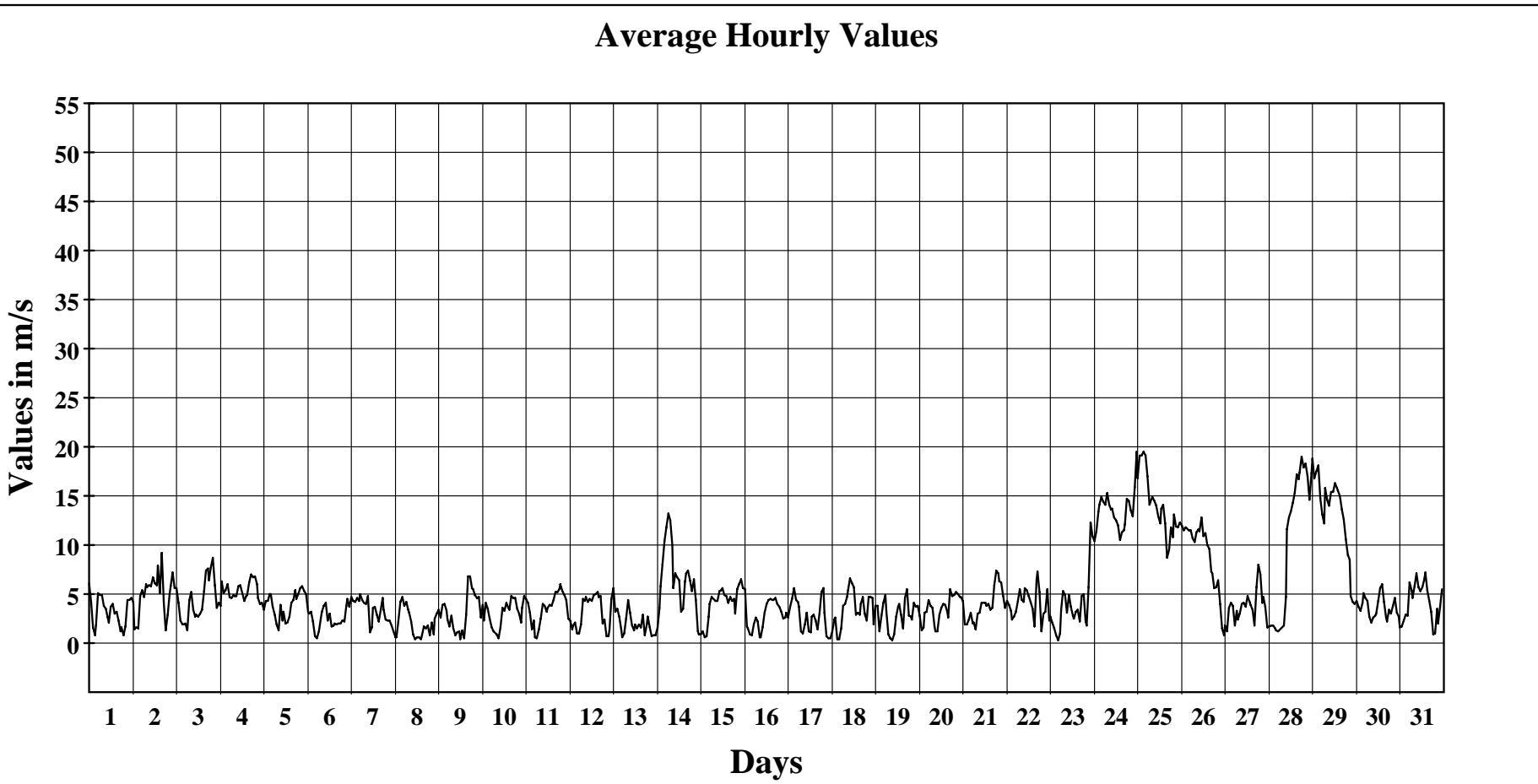
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

mai 2008

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

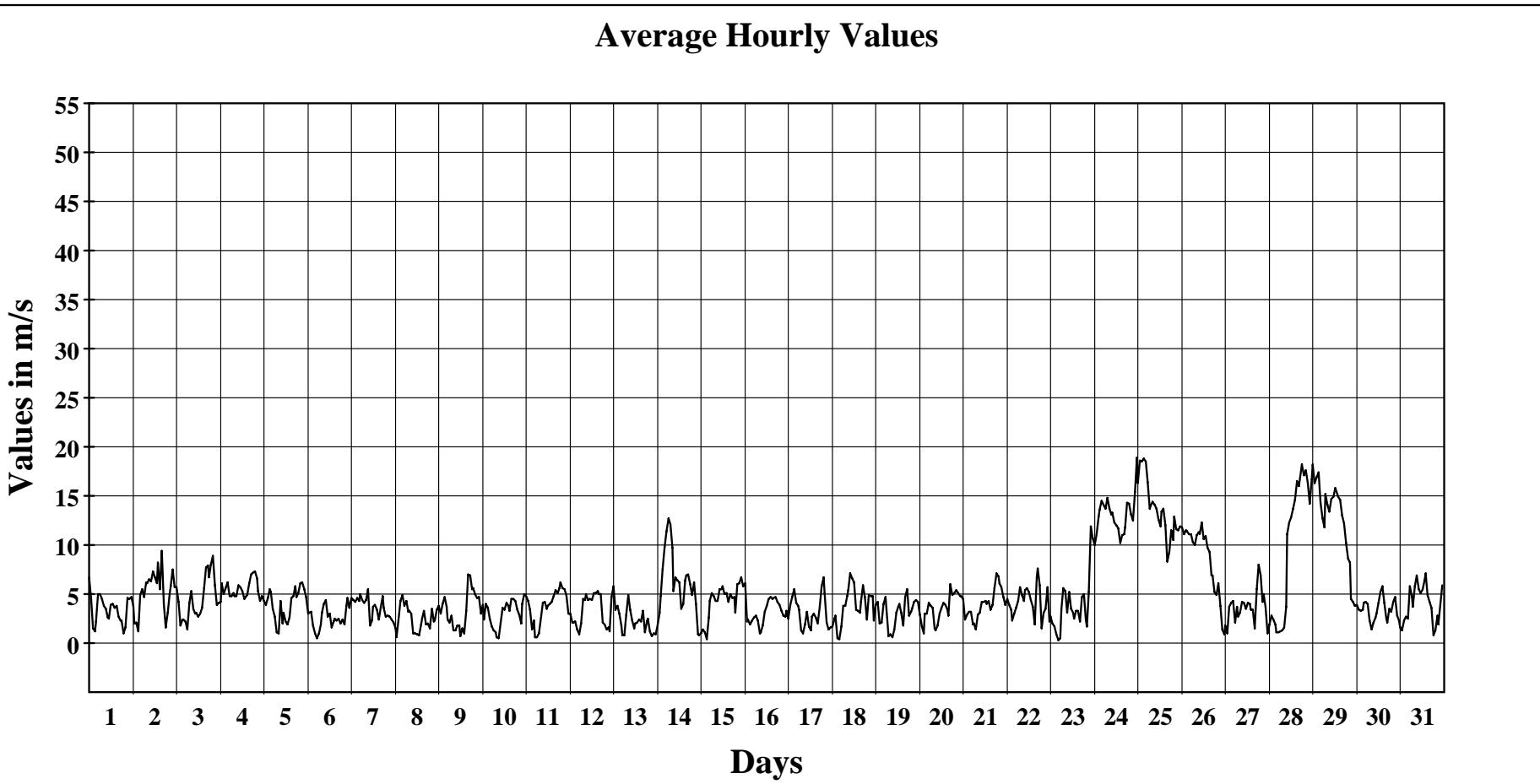


Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

mai 2008**Hourly Averages Graph Ch 2**
SITE 1601
Nanortalik

Site Information:

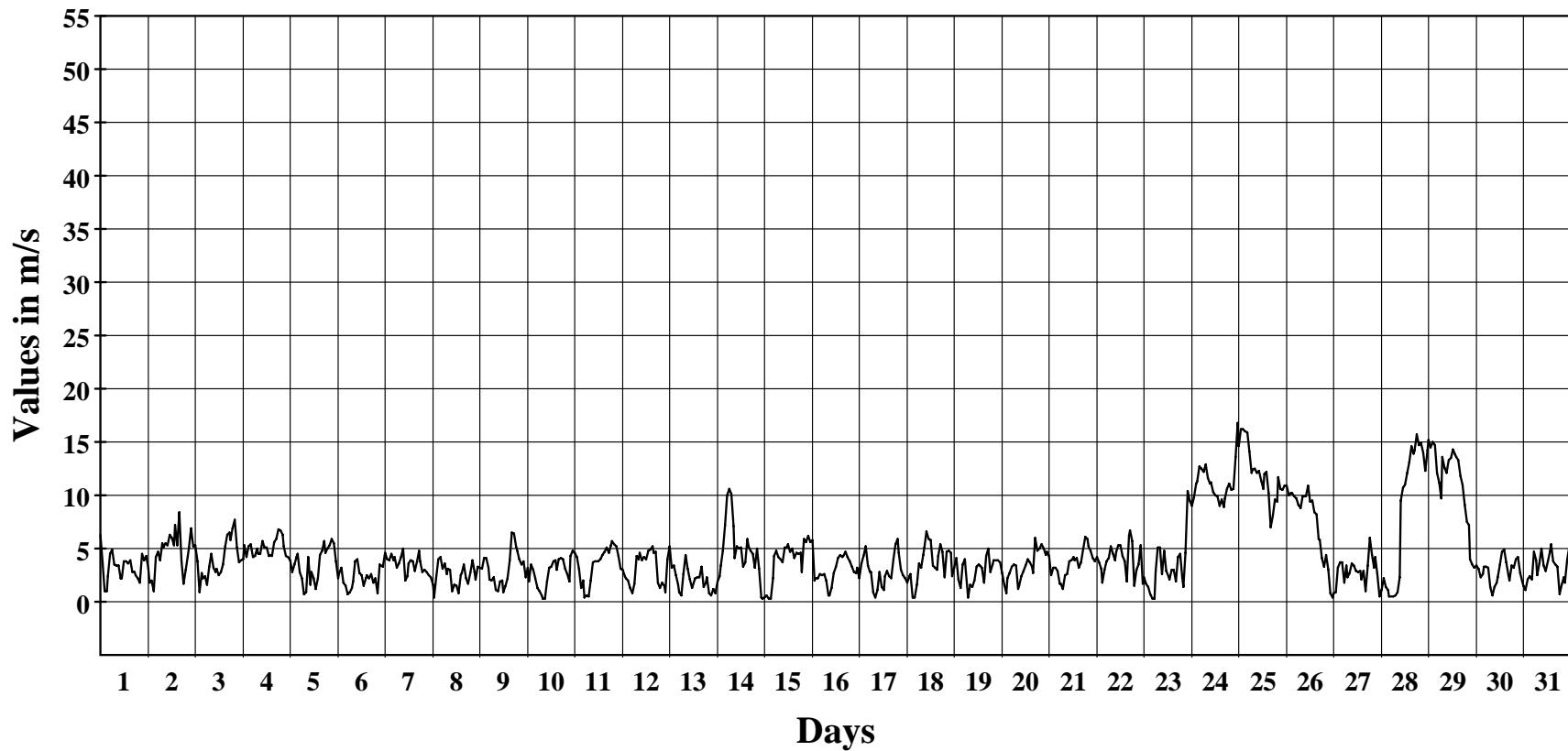
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

mai 2008

Hourly Averages Graph Ch 3
SITE 1601
Nanortalik

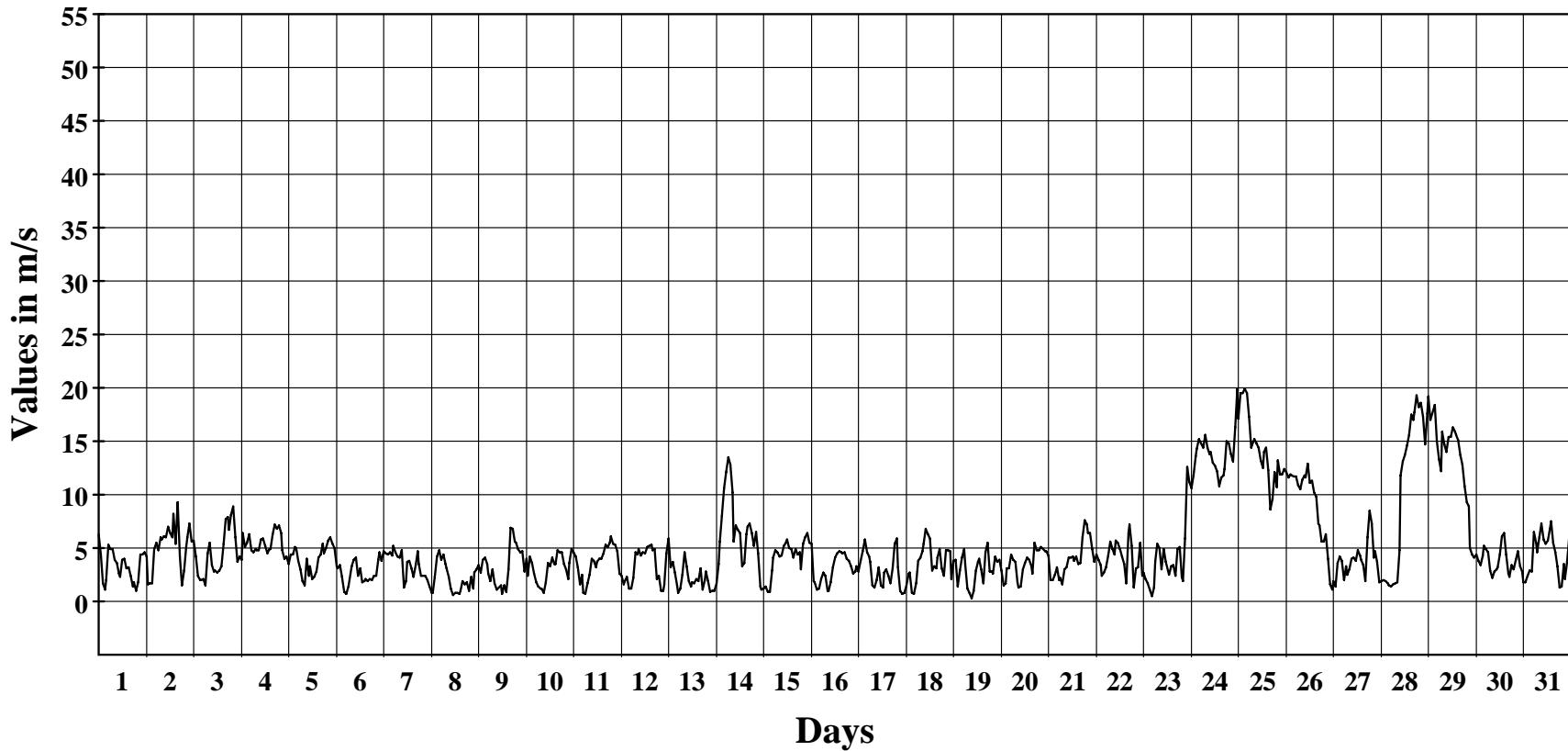
Average Hourly Values**Average Value: 4.5**

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

mai 2008**Hourly Averages Graph Ch 4**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 5.1**

Site Information:

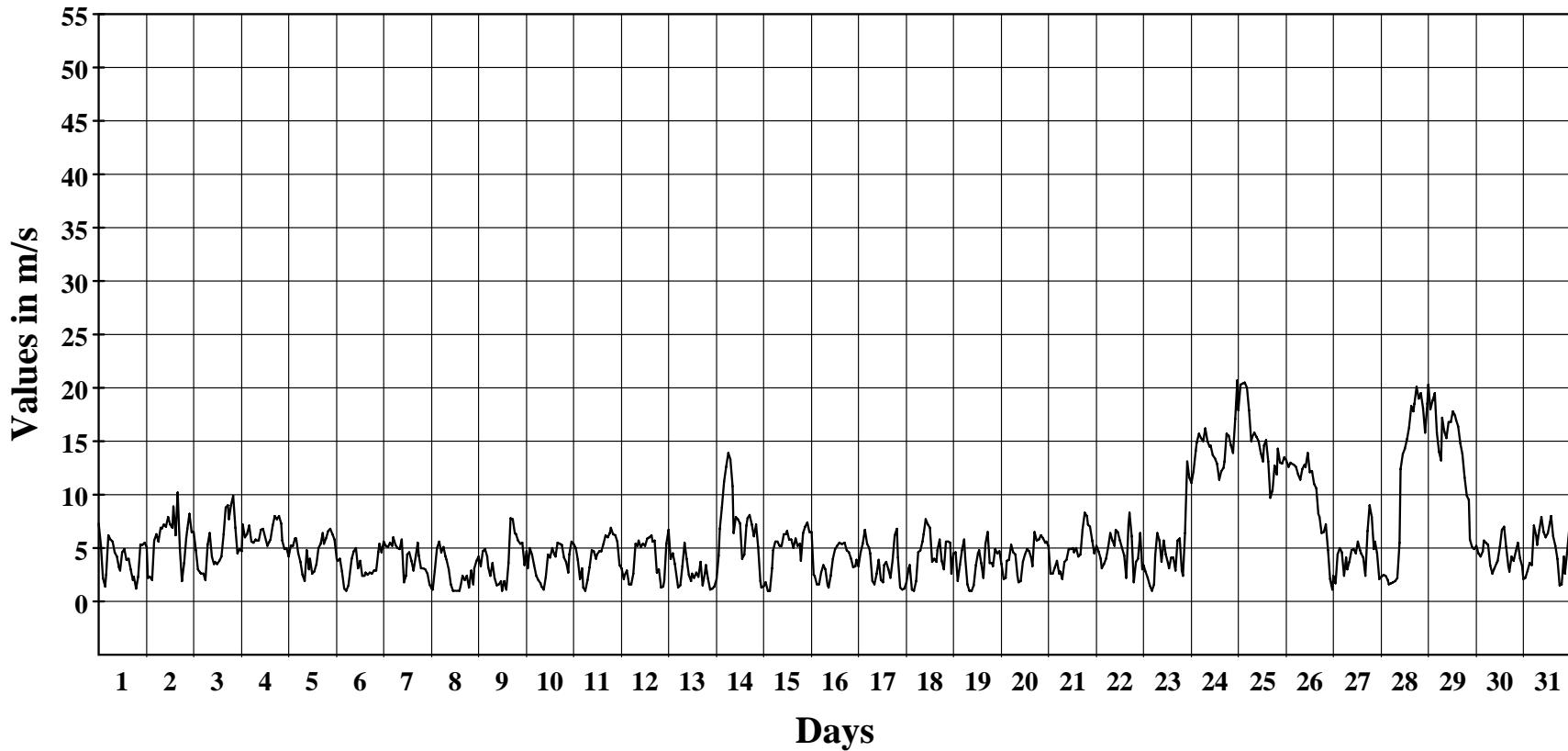
Project: Nanortalik kommune
Location: Grønland
Elevation:

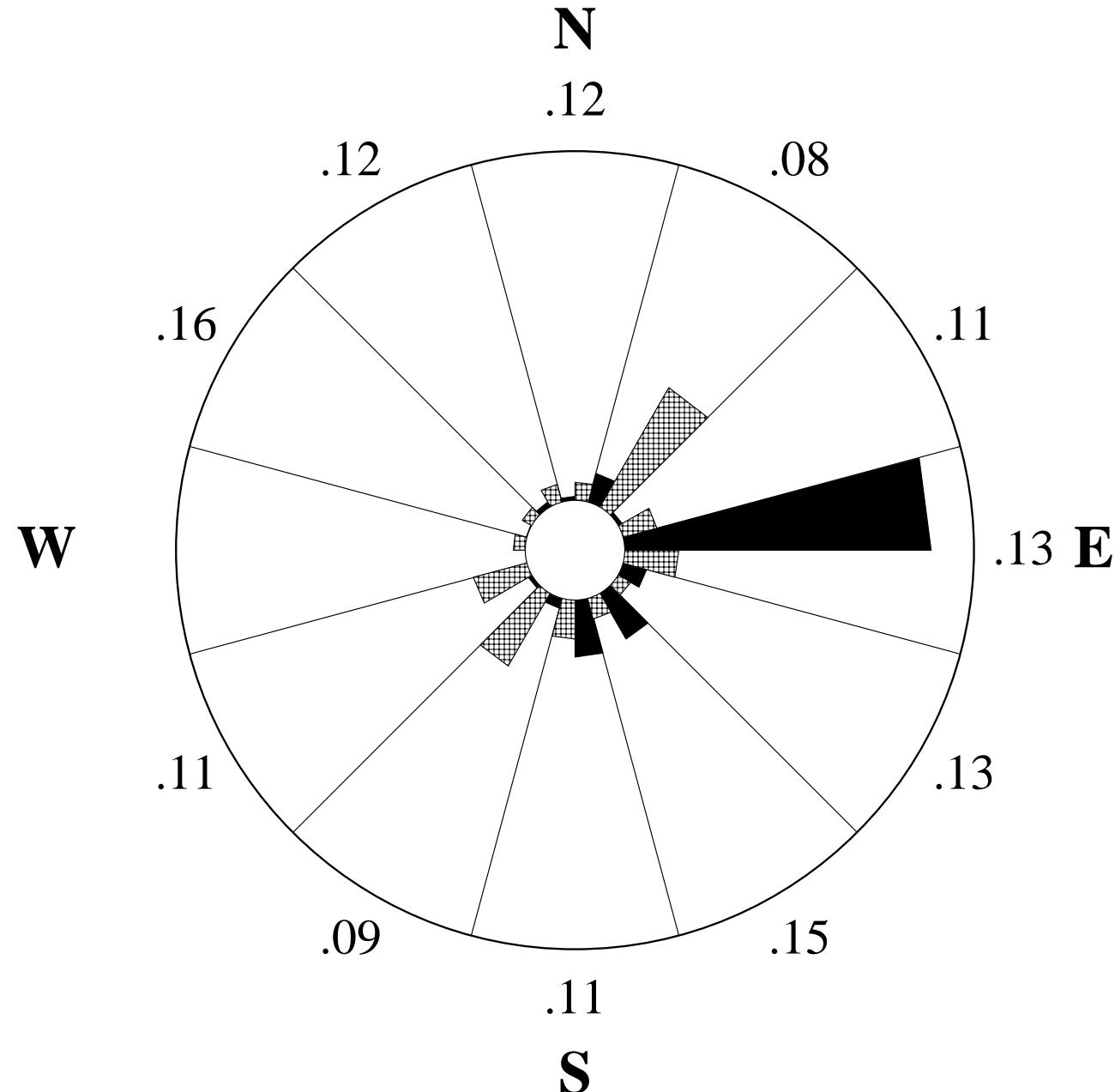
Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

mai 2008

Hourly Averages Graph Ch 5
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 5.8**



mai 2008

Wind Rose Ch 1, 8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

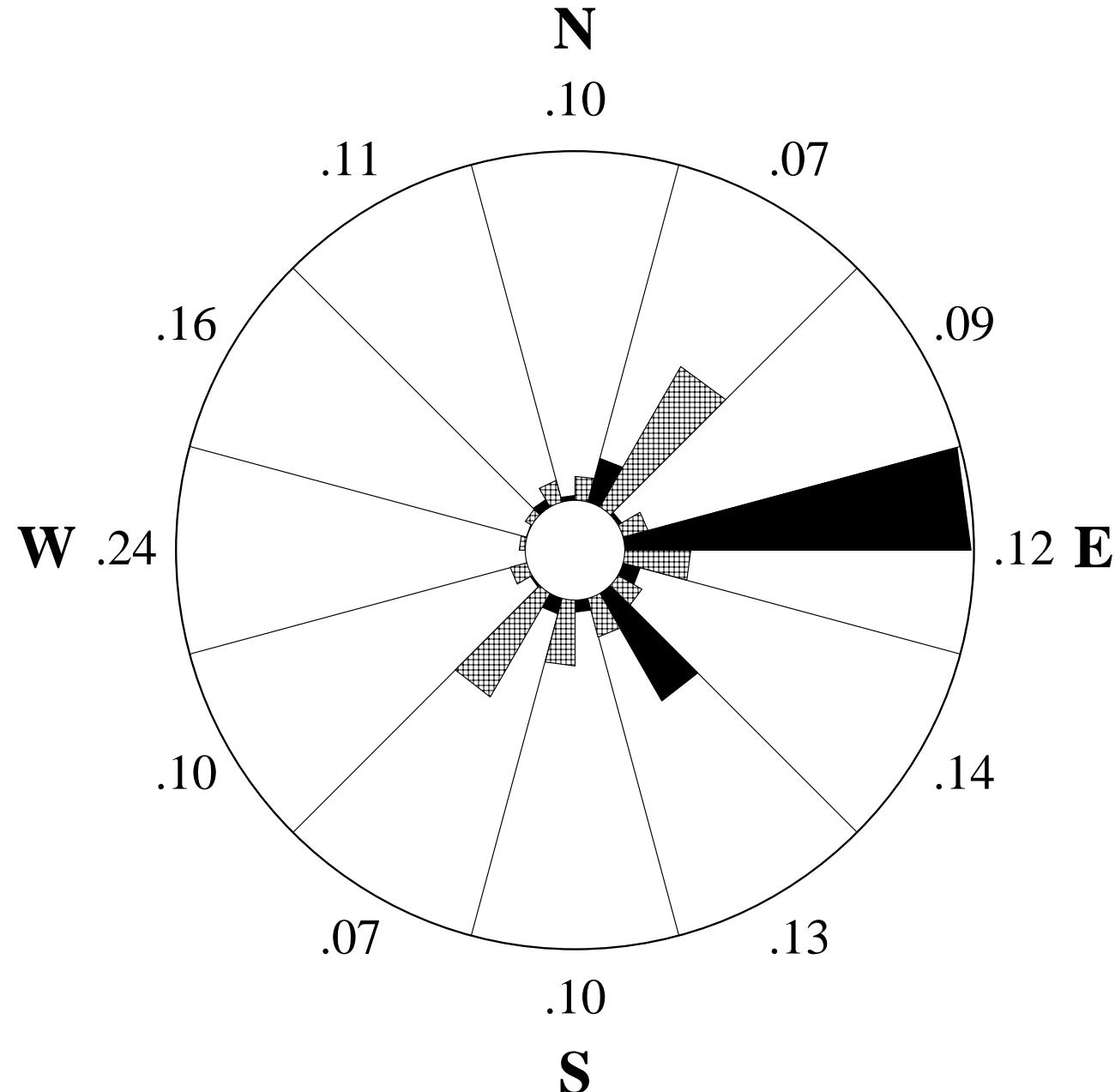
Outer Numbers are Average TIs for speeds greater than 4.5 m/s

Inner Circle = 0%

Outer Circle = 70%

Percent of Total Wind Energy

Percent of Total Time



mai 2008

Wind Rose Ch 5,7

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønland

Elevation:

Anemometer on channel 5:

NRG IceFreeIII 47m

Height: 47.5 m

Serial #: SN:12642

Vane on channel 7:

NRG IceFree III 47m

Height: 47.2m

Serial #: SN:30309

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

Inner Circle = 0%

Outer Circle = 60%

Percent of Total Wind Energy

Percent of Total Time

Site Information:

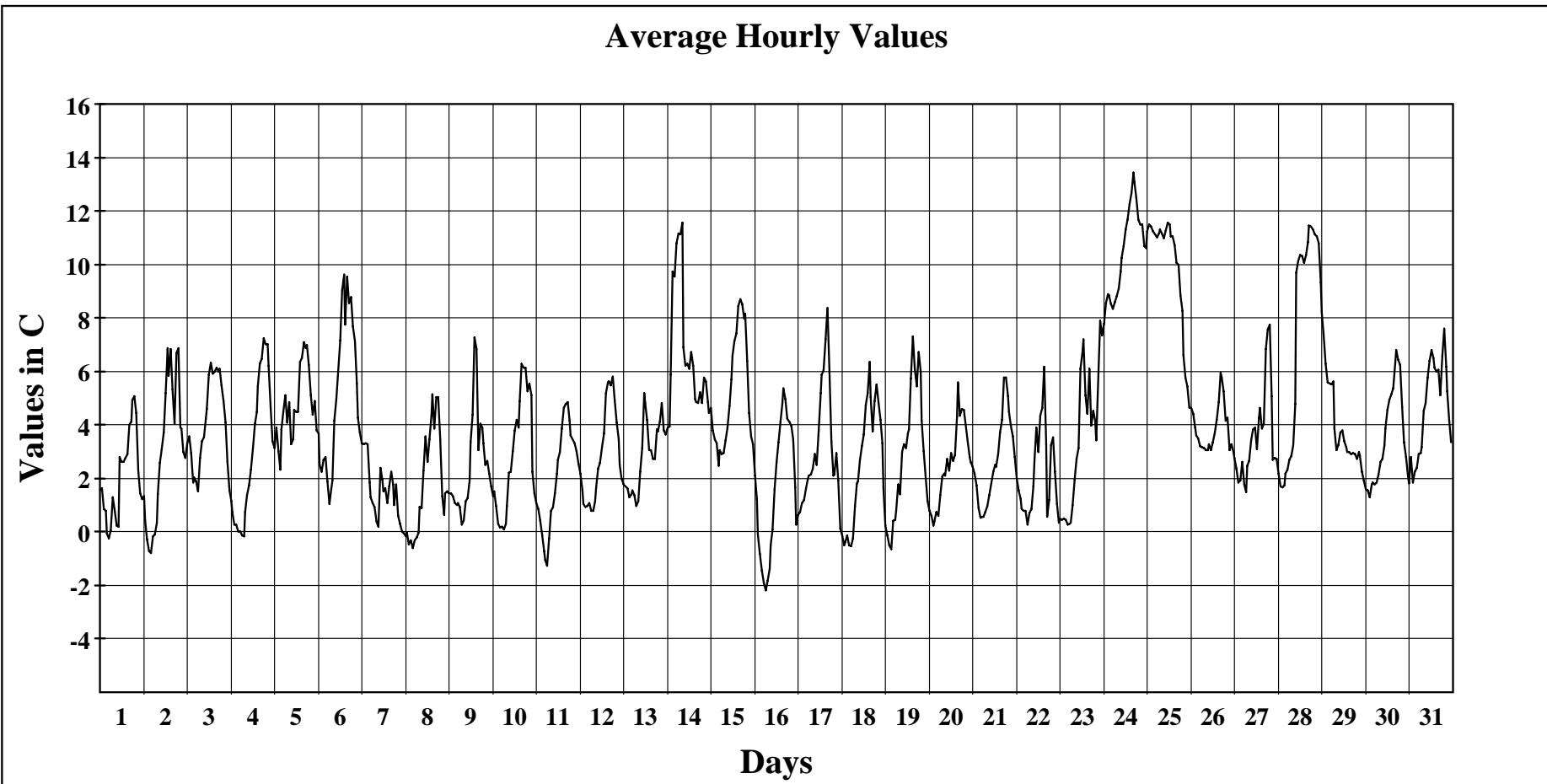
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

mai 2008

Hourly Averages Graph Ch 9
SITE 1601
Nanortalik



Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

juni 2008**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4320	4320	4320	4320	4320		4320	4320	4320			4320
Average Filtered Data	4.02	4.29	4.01	4.17	4.85		44.58	17.94	4.62			14.01
Average for All Data	4.02	4.29	4.01	4.17	4.85		44.58	17.94	4.62			14.01
Min Interval Average	0.3	0.3	0.3	0.2	1				-2.8			13.4
Date of Min Interval	01.06.2008	01.06.2008	01.06.2008	03.06.2008	01.06.2008				03.06.2008			01.06.2008
Time of Min Interval	10:20:00	10:50:00	03:20:00	07:00:00	10:20:00				06:10:00			04:50:00
Max Interval Average	15	14.8	12.2	15.3	15.8				17.6			14.6
Date of Max Interval	12.06.2008	12.06.2008	12.06.2008	12.06.2008	12.06.2008				12.06.2008			02.06.2008
Time of Max Interval	01:00:00	01:00:00	01:20:00	01:20:00	01:00:00				16:00:00			10:30:00
Average Interval SD	0.45	0.45	0.53	0.45	0.43		3.19	9.19	0.07			0
Min Sample	0.3	0.3	0.3	0.2	1				-3.1			13.4
Date of Min Sample	01.06.2008	01.06.2008	01.06.2008	01.06.2008	01.06.2008				03.06.2008			01.06.2008
Time of Min Sample	10:00:00	01:10:00	01:00:00	10:20:00	10:10:00				06:20:00			04:10:00
Max Sample	18.2	19	17.2	18.8	19.3				18.2			15
Date of Max Sample	12.06.2008	12.06.2008	12.06.2008	12.06.2008	12.06.2008				12.06.2008			05.06.2008
Time of Max Sample	00:30:00	00:30:00	00:00:00	00:30:00	00:30:00				16:00:00			09:10:00
Average Interval TI	0.16	0.14	0.17	0.14	0.11							
Wind Speed Direction							NN	NN				

Site Information:

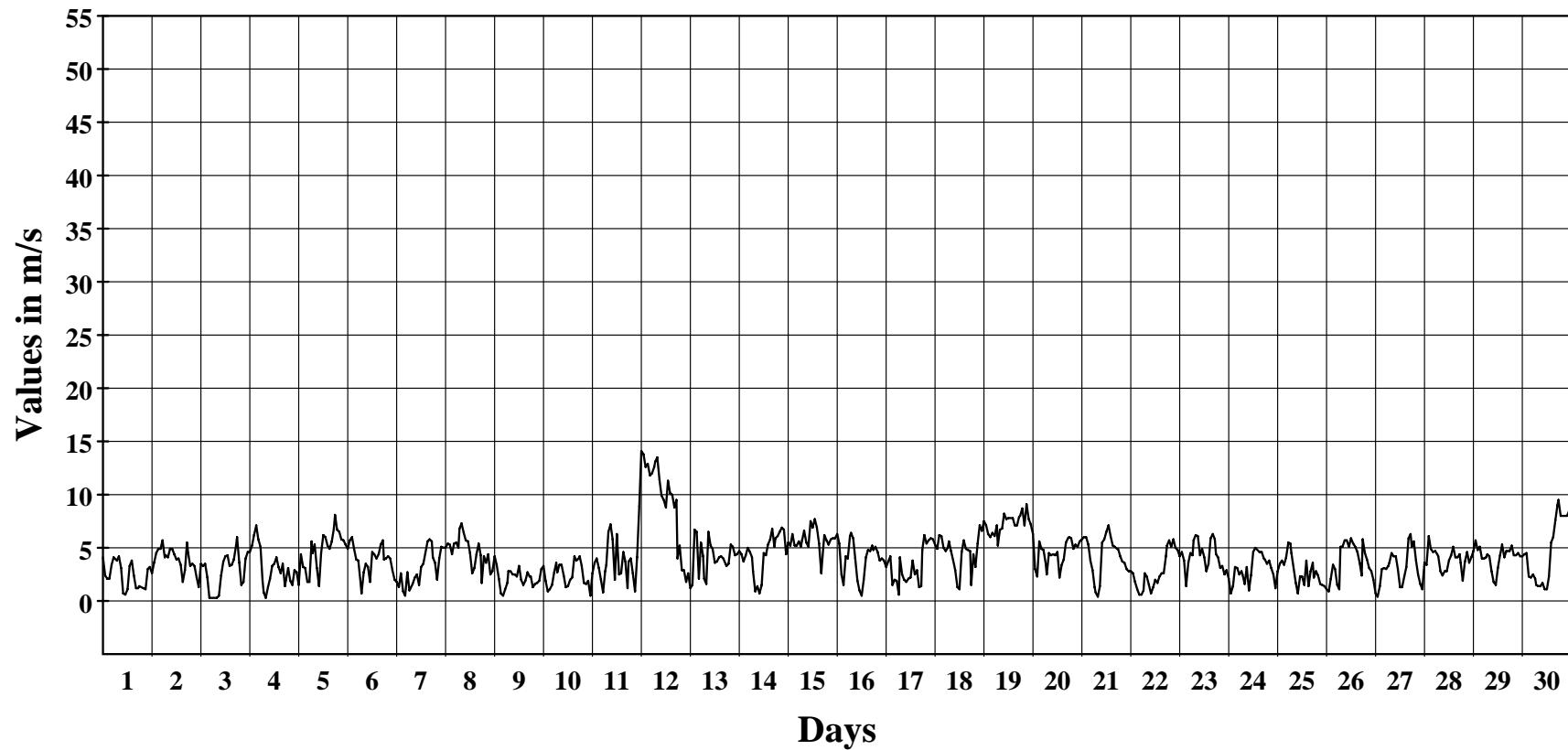
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

juni 2008

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 4.0**

Site Information:

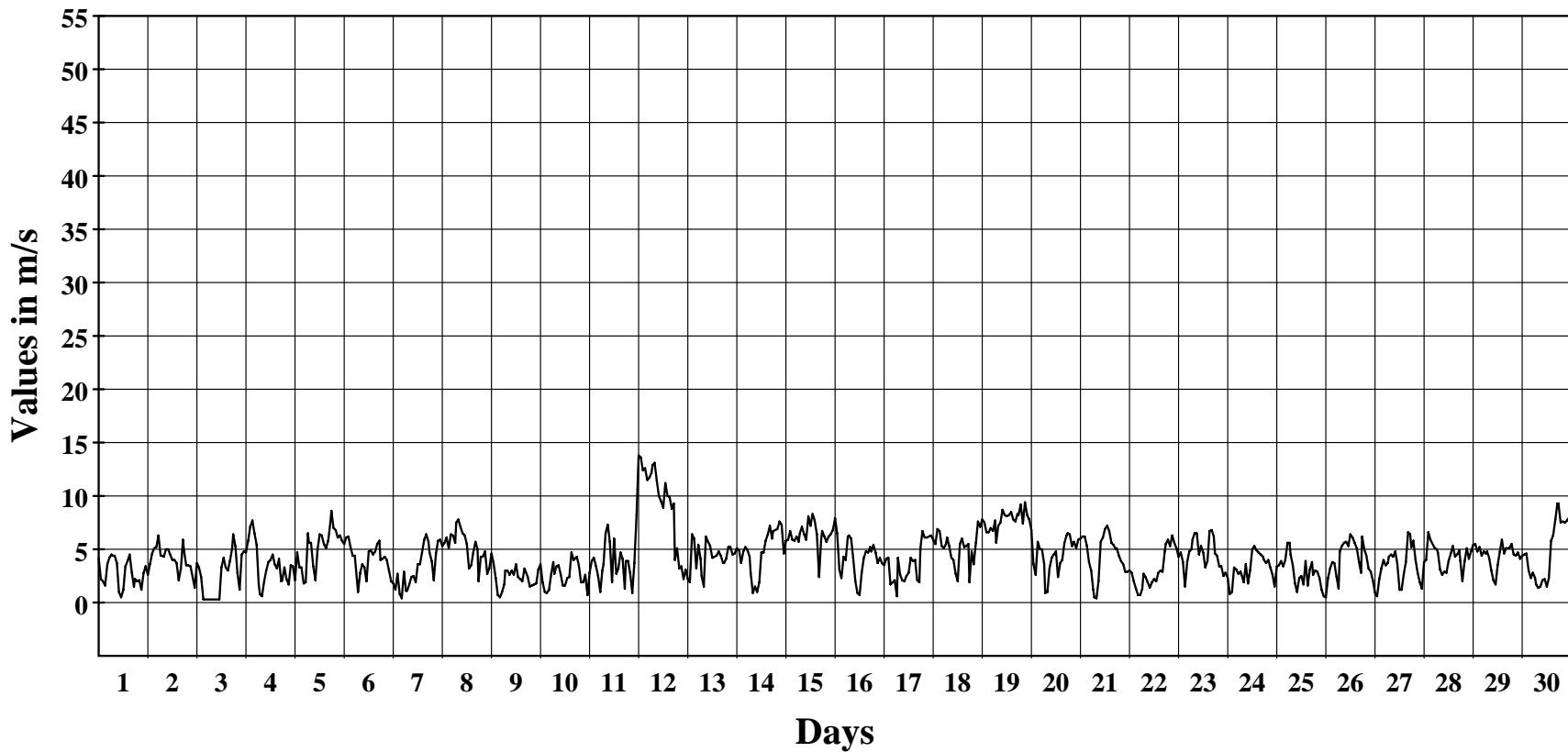
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

juni 2008

Hourly Averages Graph Ch 2
SITE 1601
Nanortalik

Average Hourly Values

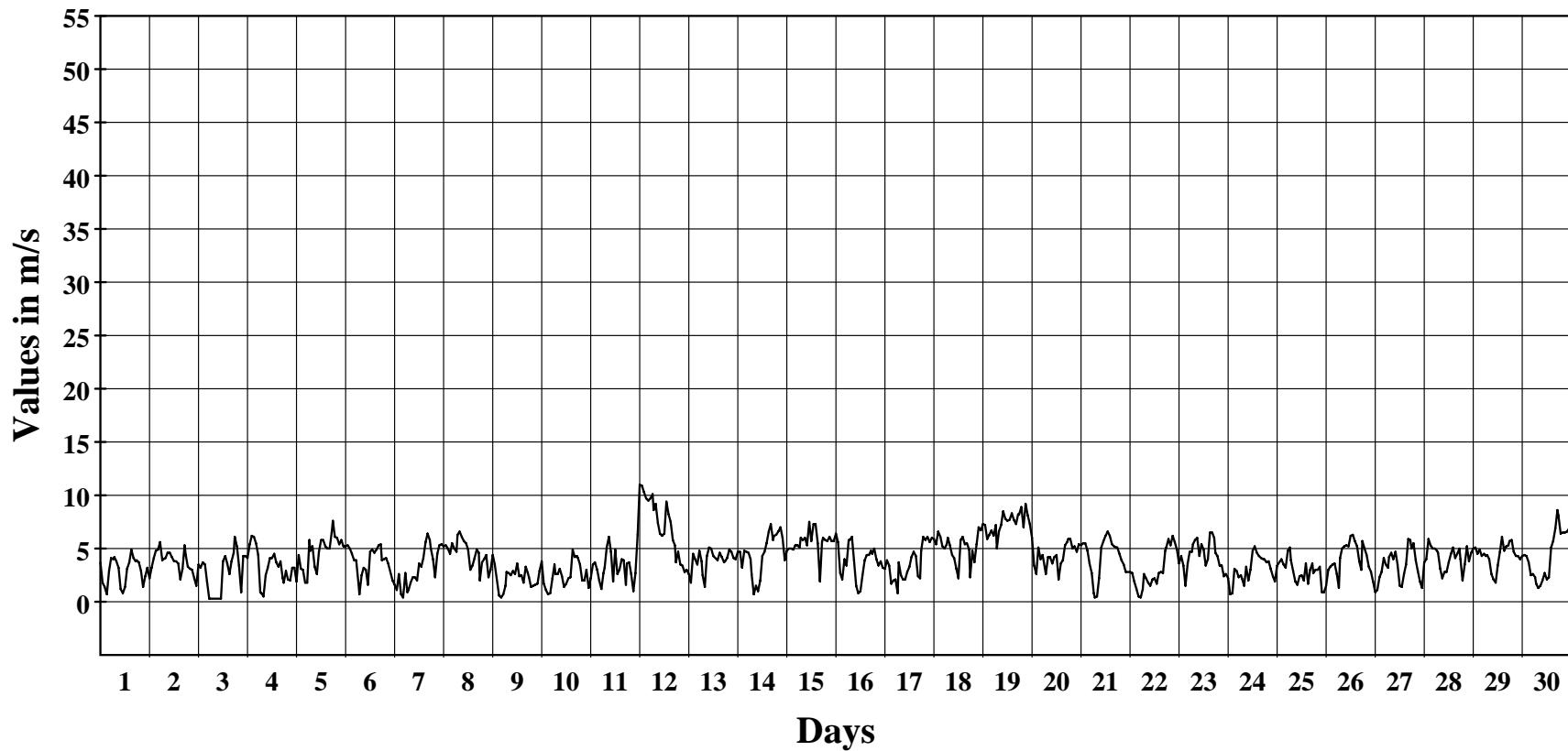
Average Value: 4.3

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

juni 2008**Hourly Averages Graph Ch 3**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 4.0**

Site Information:

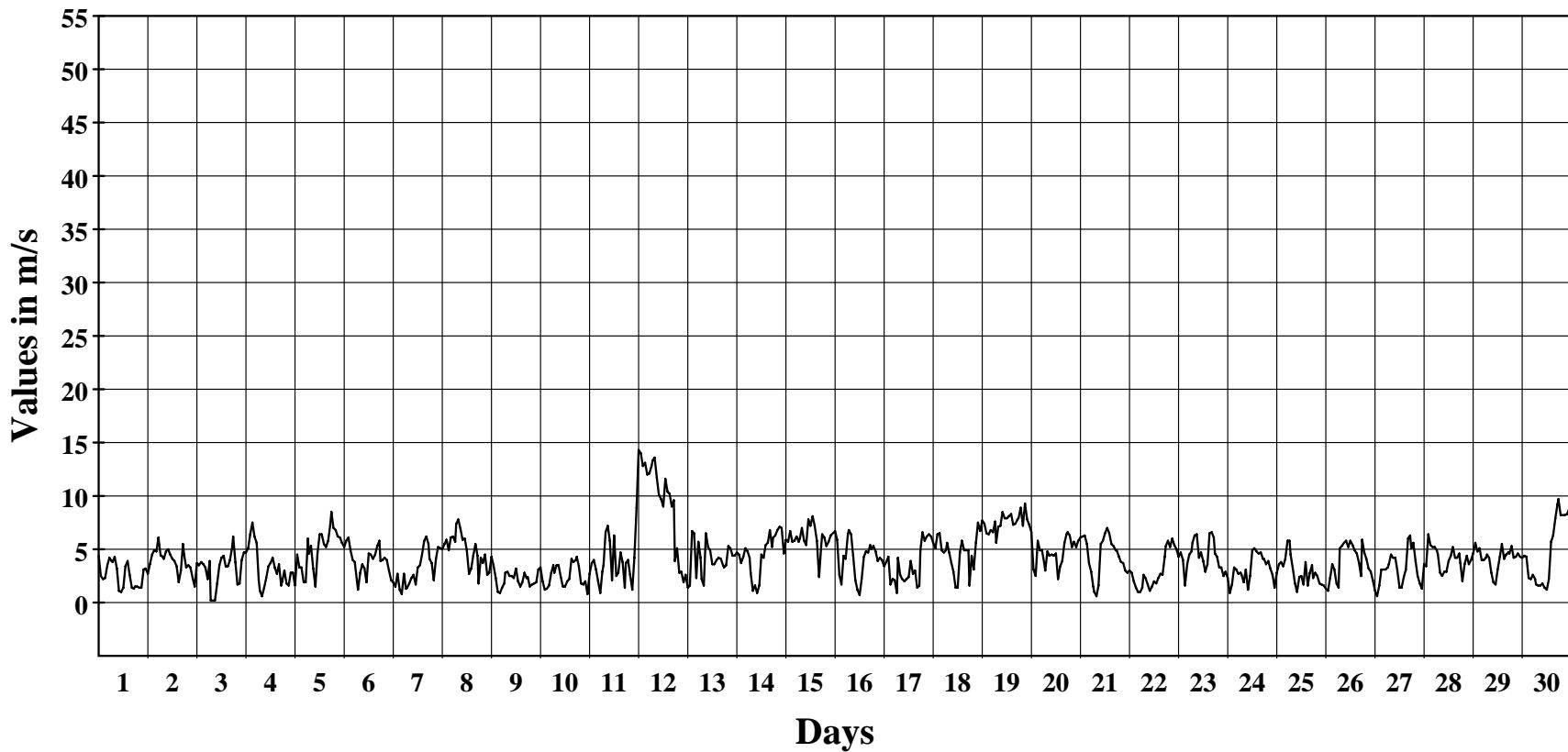
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

juni 2008

Hourly Averages Graph Ch 4
SITE 1601
Nanortalik

Average Hourly Values

Average Value: 4.2

Site Information:

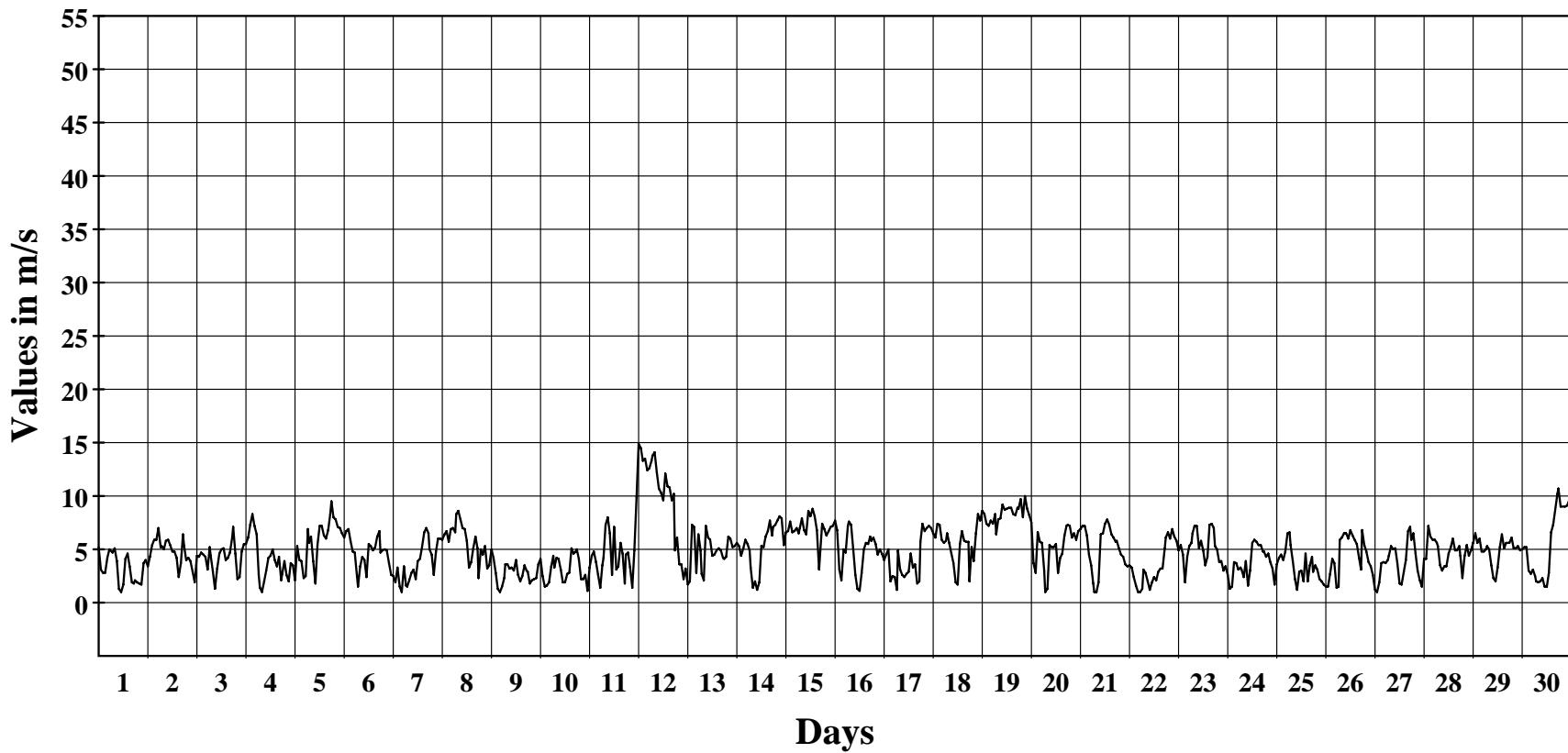
Project: Nanortalik kommune
Location: Grønland
Elevation:

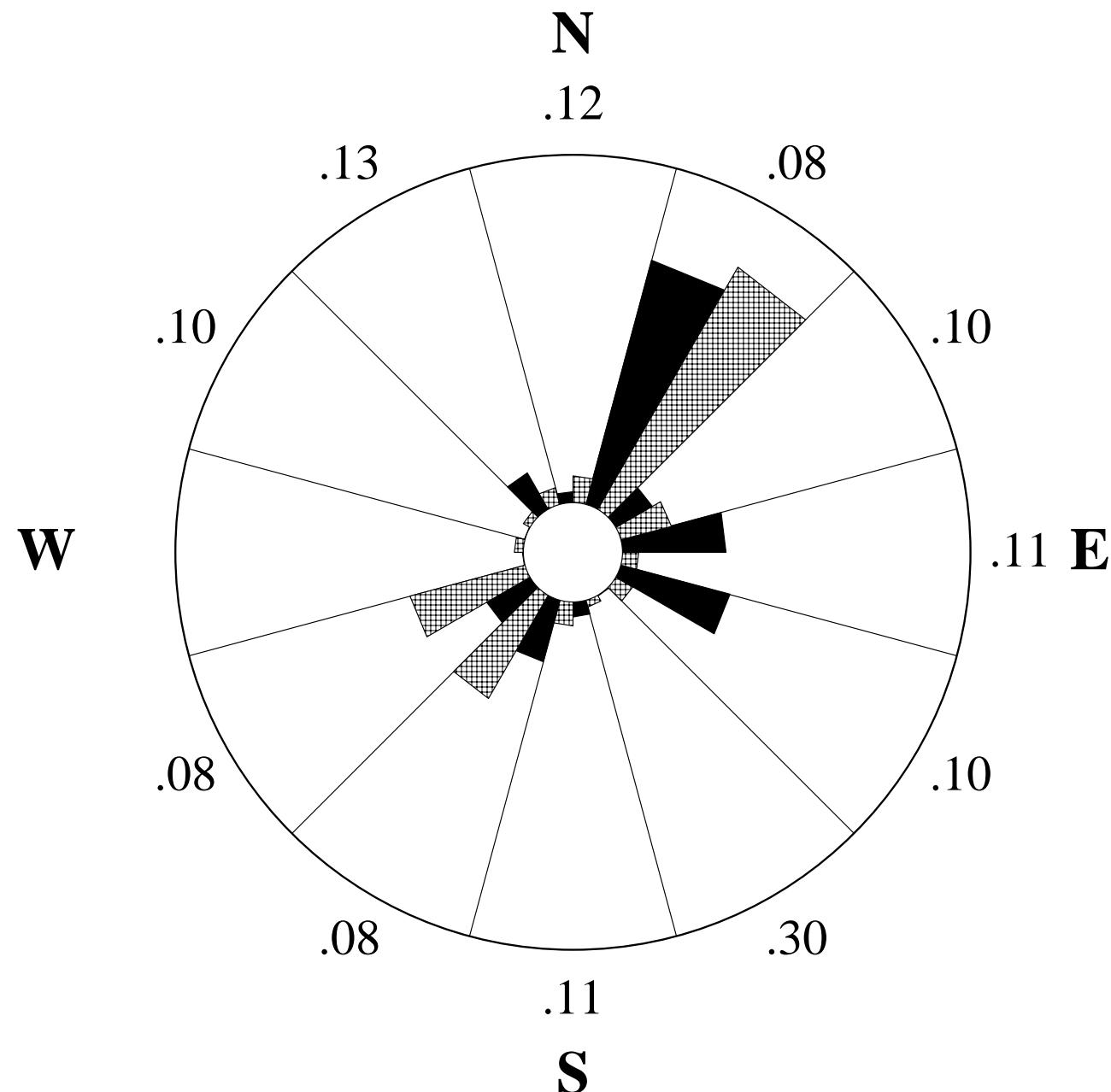
Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

juni 2008

Hourly Averages Graph Ch 5
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 4.9**



juni 2008

Wind Rose Ch 1,8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

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

Inner Circle = 0%

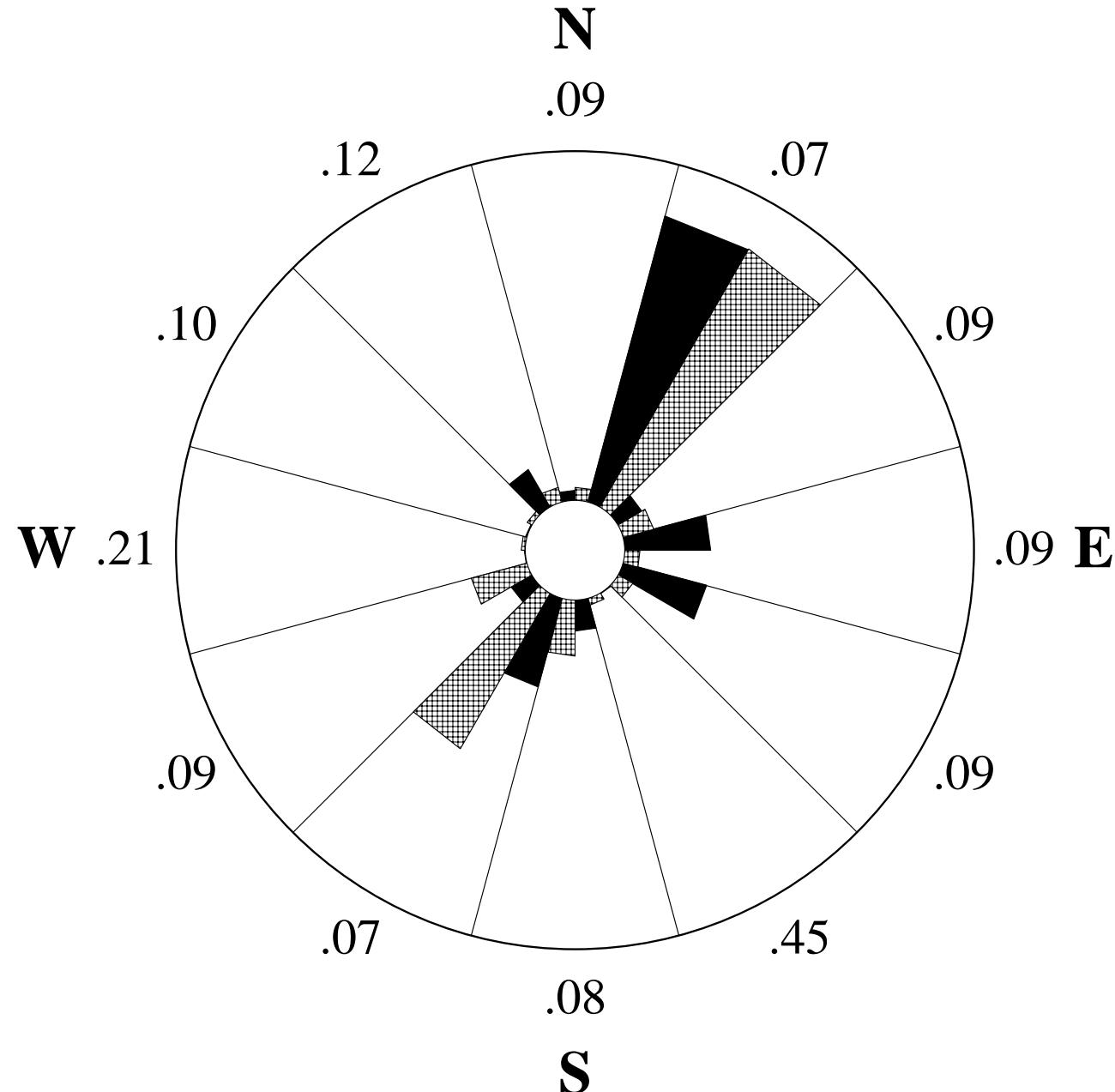
Outer Circle = 50%



Percent of Total Wind Energy



Percent of Total Time



juni 2008

Wind Rose Ch 5,7

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 5:

NRG IceFreeIII 47m

Height: 47.5 m

Serial #: SN:12642

Vane on channel 7:

NRG IceFree III 47m

Height: 47.2m

Serial #: SN:30309

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

Inner Circle = 0%

Outer Circle = 50%



Percent of Total Wind Energy



Percent of Total Time

Site Information:

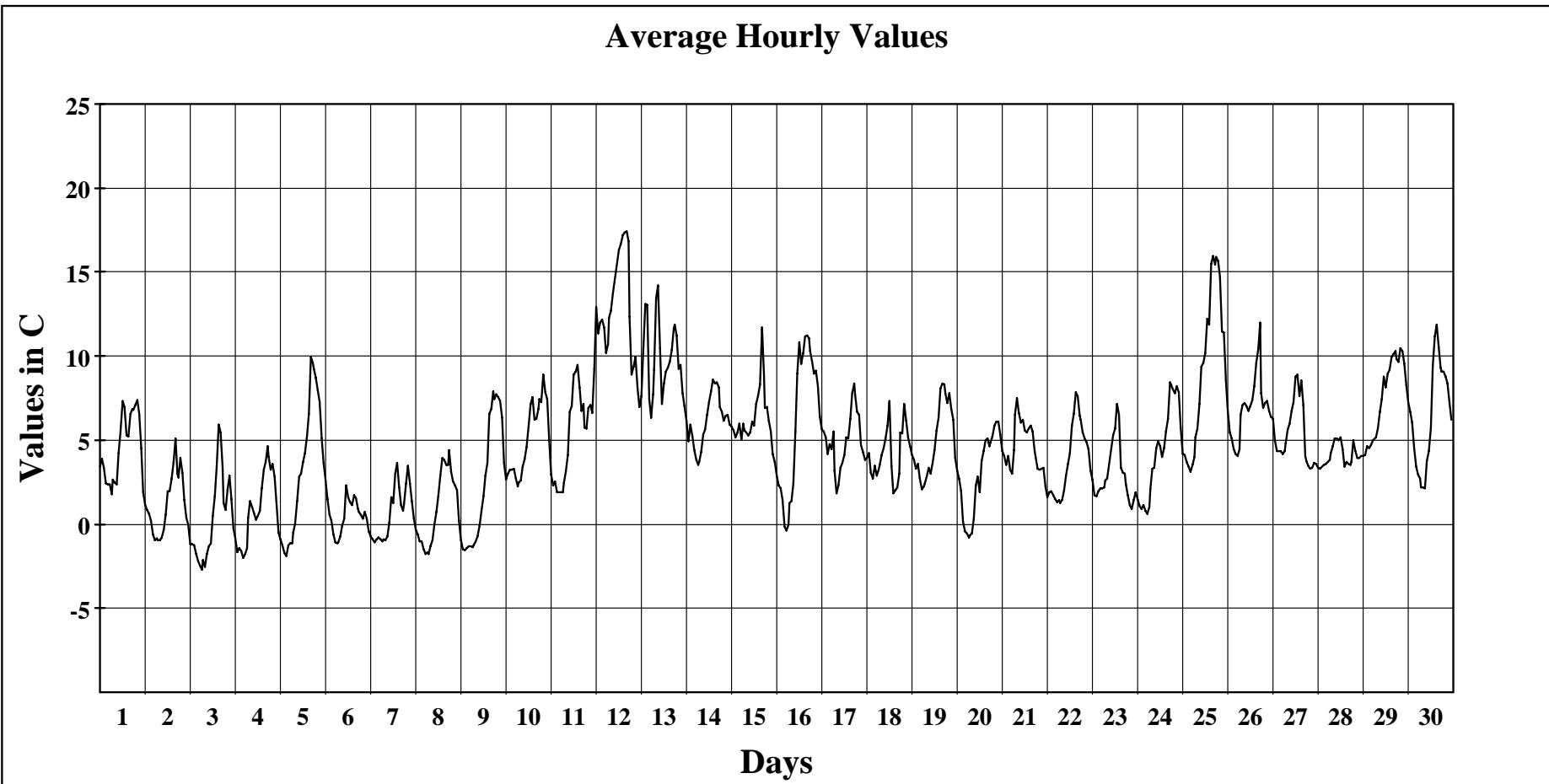
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

juni 2008

Hourly Averages Graph Ch 9
SITE 1601
Nanortalik



Site Information:

Project: Nanortalik kommune
 Location: Grønland
 Elevation:

Sensor Information:

1 NRG #40 Anem. 48m	7 NRG IceFree III 47m
2 NRG #40 Anem. 30 m	8 #200P Wind Vane 41m
3 NRG #40 Anem. 10 m	9 NRG #110S Temp C
4 Riso 48 M	10 No SCM Installed
5 NRG IceFreeIII 47m	11 No SCM Installed
6 No SCM Installed	12 VOLT

juli 2008**Summary Report**

SITE 1601

Nanortalik

Channel	1	2	3	4	5		7	8	9			12
Height	48.8 m	30 m	10 m	48.8 m	47.5 m	-----	47.2m	41.4 m	0	-----	-----	m
Units	m/s	m/s	m/s	m/s	m/s	-----	deg	deg	C	-----	-----	V
Intervals with Valid Data	4464	4464	4464	4464	4464		4464	4464	4464			4464
Average Filtered Data	4.19	4.37	3.86	4.43	5.04		54.33	15.76	6.99			13.85
Average for All Data	4.19	4.37	3.86	4.43	5.04		54.33	15.76	6.99			13.85
Min Interval Average	0.3	0.3	0.3	0.3	1				-0.7			13.2
Date of Min Interval	06.07.2008	05.07.2008	02.07.2008	06.07.2008	02.07.2008				04.07.2008			09.07.2008
Time of Min Interval	00:50:00	20:40:00	09:40:00	22:40:00	09:40:00				01:40:00			14:00:00
Max Interval Average	16.2	14.7	12.7	16.3	17.5				18			14.6
Date of Max Interval	12.07.2008	12.07.2008	12.07.2008	12.07.2008	12.07.2008				22.07.2008			01.07.2008
Time of Max Interval	07:10:00	07:10:00	08:50:00	07:10:00	07:10:00				19:50:00			09:50:00
Average Interval SD	0.6	0.59	0.66	0.6	0.57		4.36	11.92	0.12			0
Min Sample	0.3	0.3	0.3	0.2	1				-0.8			13
Date of Min Sample	01.07.2008	01.07.2008	01.07.2008	01.07.2008	01.07.2008				04.07.2008			20.07.2008
Time of Min Sample	15:50:00	15:50:00	15:50:00	15:50:00	15:50:00				01:40:00			14:00:00
Max Sample	20	19.8	19.5	20	22.5				18.2			14.9
Date of Max Sample	12.07.2008	23.07.2008	23.07.2008	12.07.2008	12.07.2008				22.07.2008			23.07.2008
Time of Max Sample	07:50:00	13:30:00	13:30:00	07:50:00	07:50:00				19:50:00			08:50:00
Average Interval TI	0.2	0.19	0.23	0.17	0.13							
Wind Speed Direction							NN	NN				

Site Information:

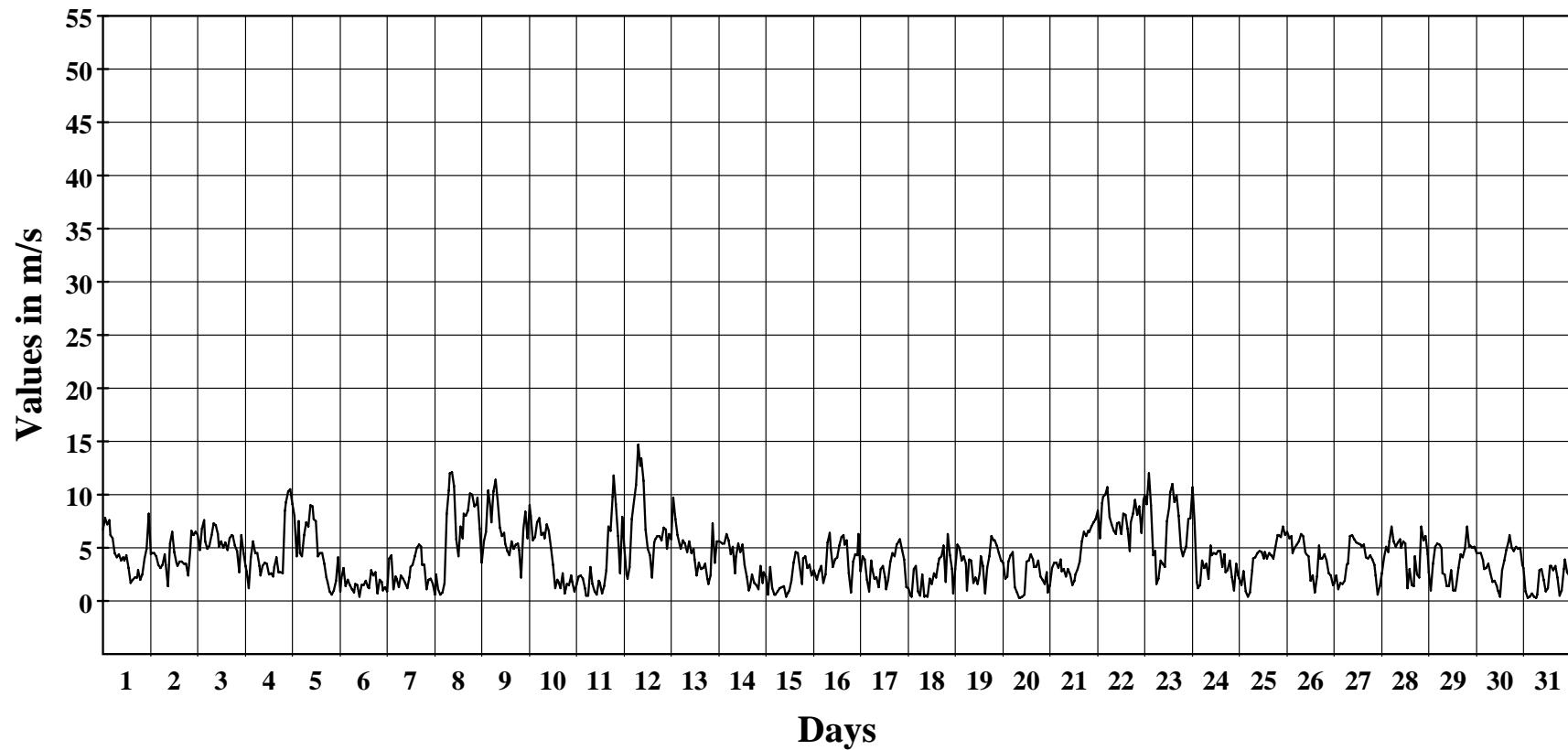
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 1:

NRG #40 Anem. 48m
Height: 48.8 m
Serial #: SN:0510

juli 2008

Hourly Averages Graph Ch 1
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 4.2**

Site Information:

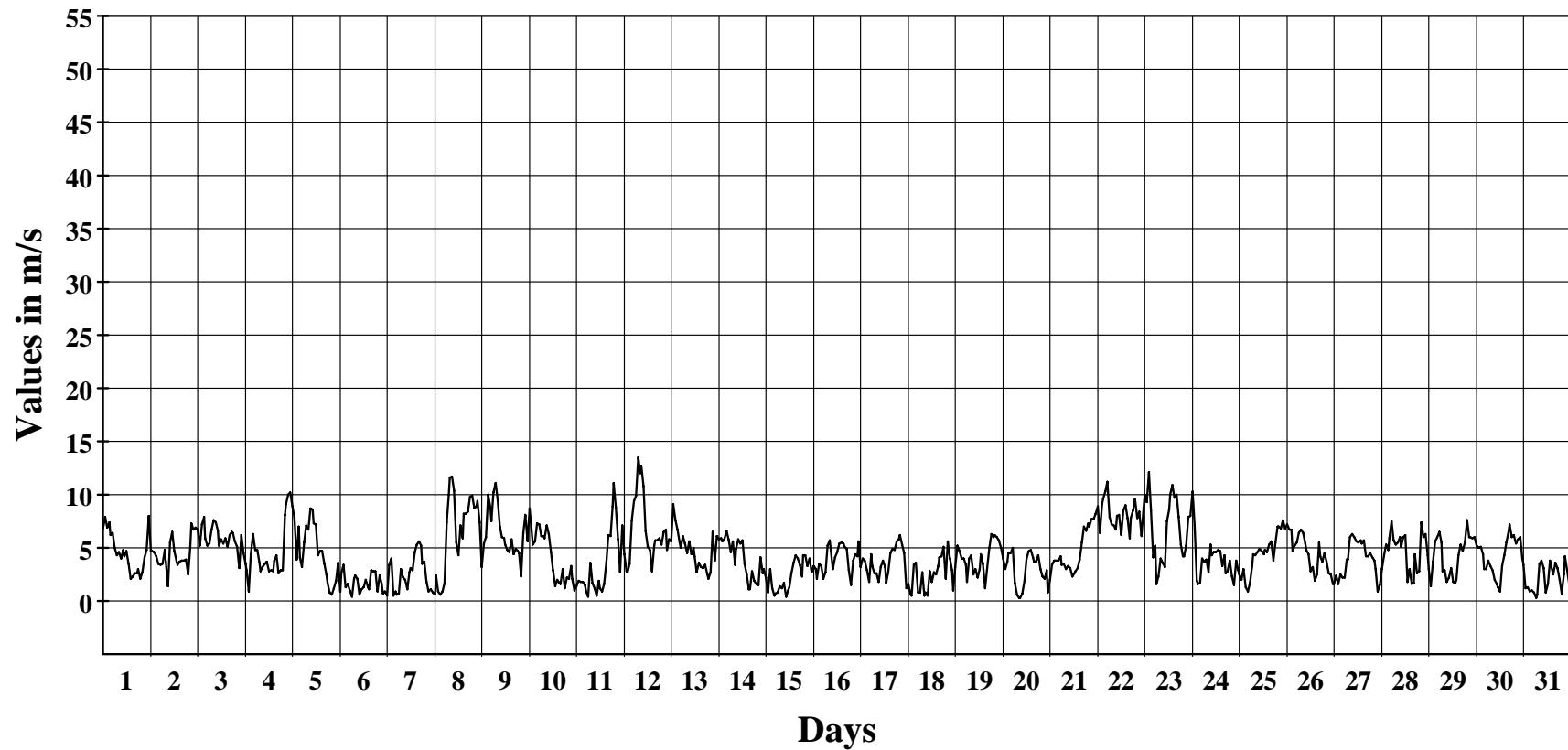
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 2:

NRG #40 Anem. 30 m
Height: 30 m
Serial #: SN: 0509

juli 2008

Hourly Averages Graph Ch 2
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 4.4**

Site Information:

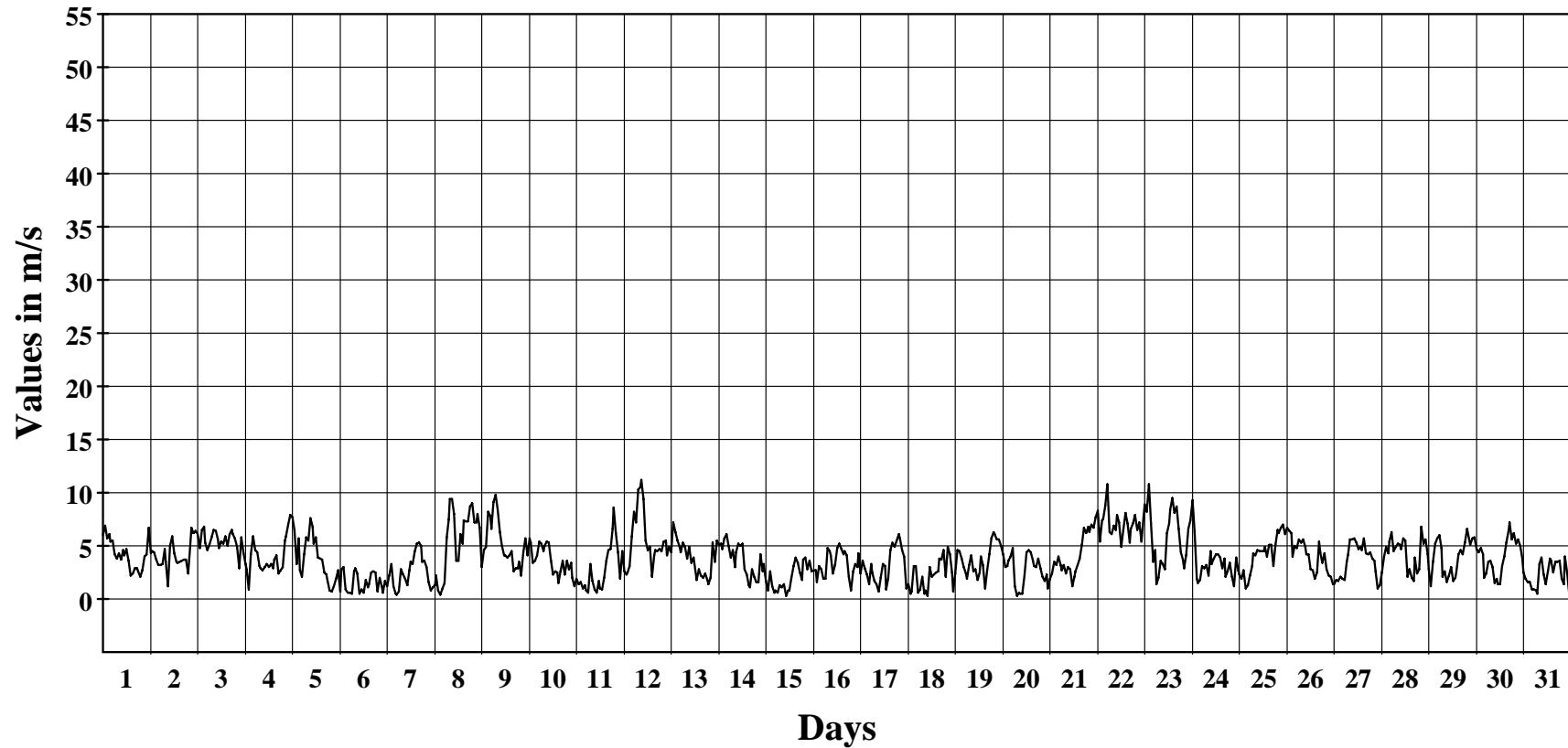
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 3:

NRG #40 Anem. 10 m
Height: 10 m
Serial #: SN: 0508

juli 2008

Hourly Averages Graph Ch 3
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 3.9**

Site Information:

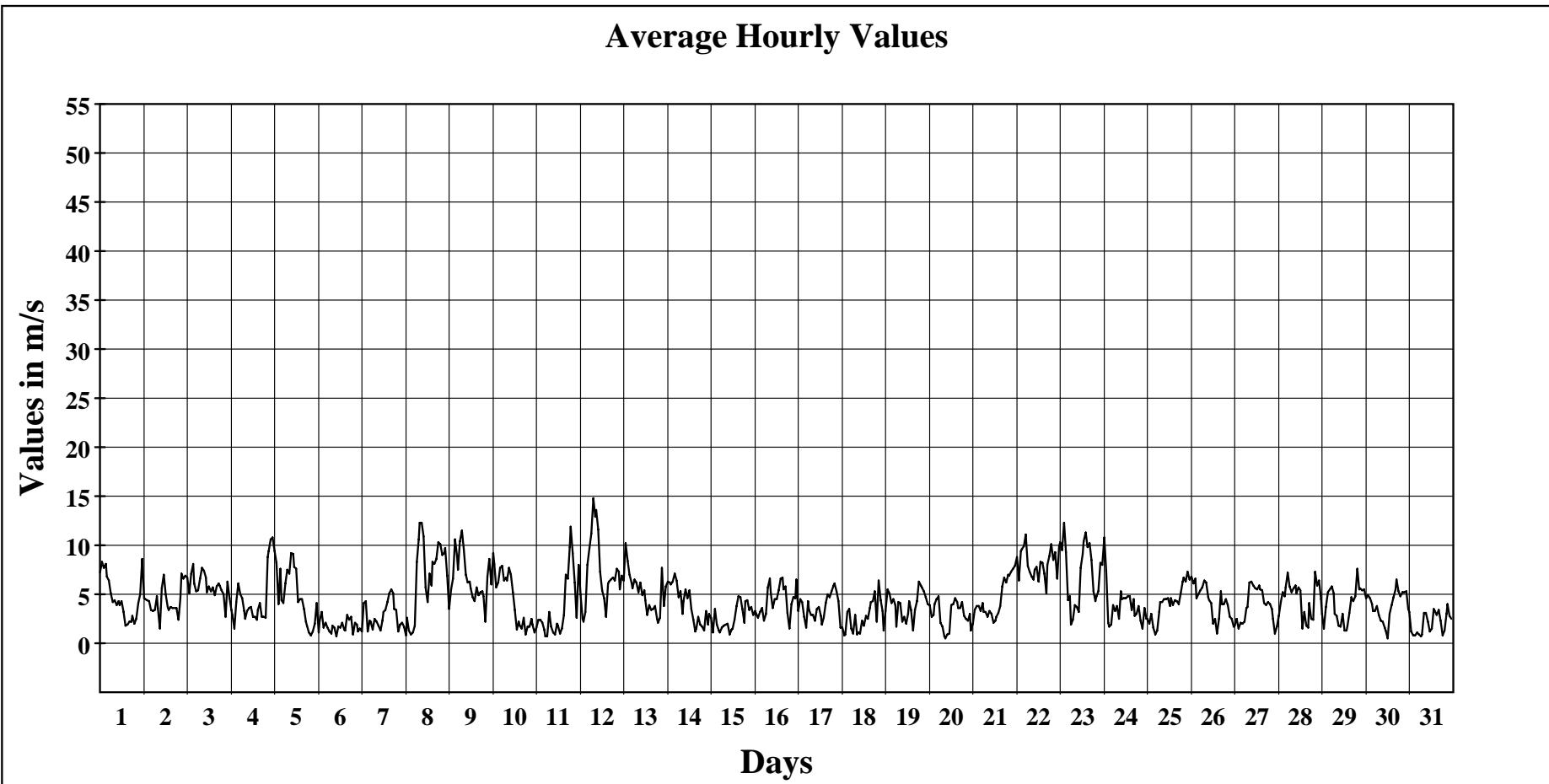
Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 4:

Riso 48 M
Height: 48.8 m
Serial #: SN:2623

juli 2008

Hourly Averages Graph Ch 4
SITE 1601
Nanortalik



Site Information:

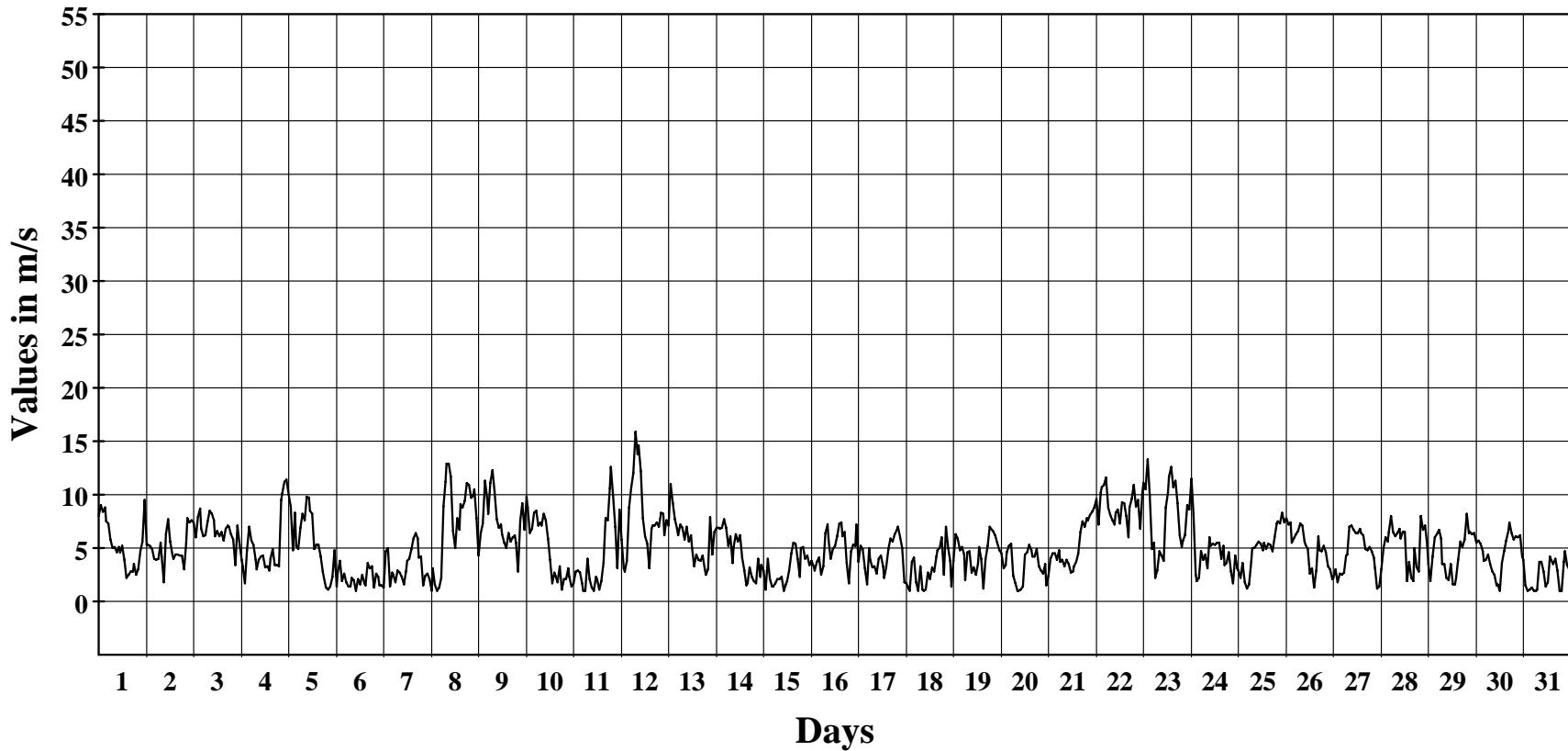
Project: Nanortalik kommune
Location: Grønland
Elevation:

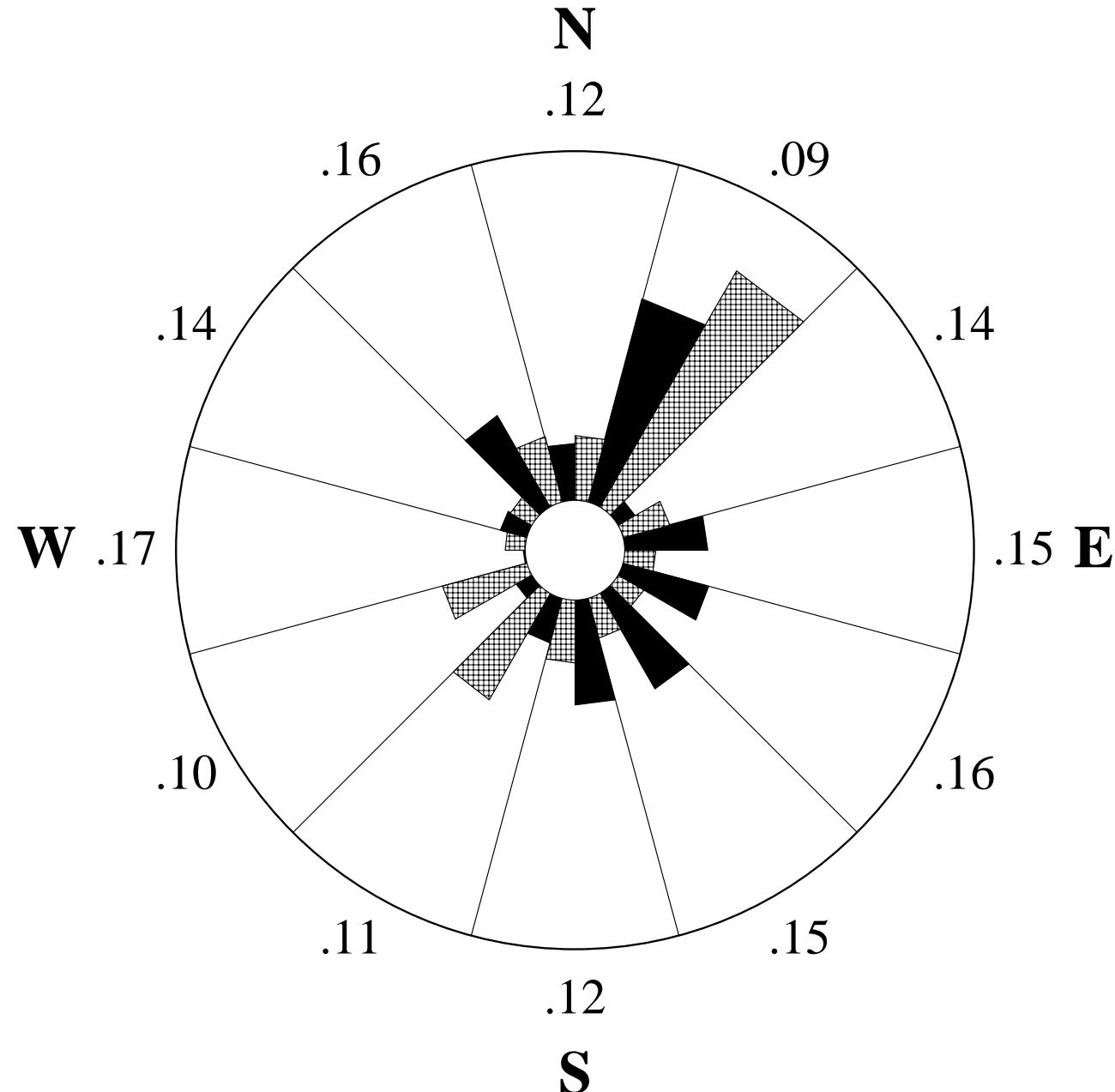
Sensor on channel 5:

NRG IceFreeIII 47m
Height: 47.5 m
Serial #: SN:12642

juli 2008

Hourly Averages Graph Ch 5
SITE 1601
Nanortalik

Average Hourly Values**Average Value: 5.0**



juli 2008

Wind Rose Ch 1,8

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønland

Elevation:

Anemometer on channel 1:

NRG #40 Anem. 48m

Height: 48.8 m

Serial #: SN:0510

Vane on channel 8:

#200P Wind Vane 41m

Height: 41.4 m

Serial #: SN:1313

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

Inner Circle = 0%

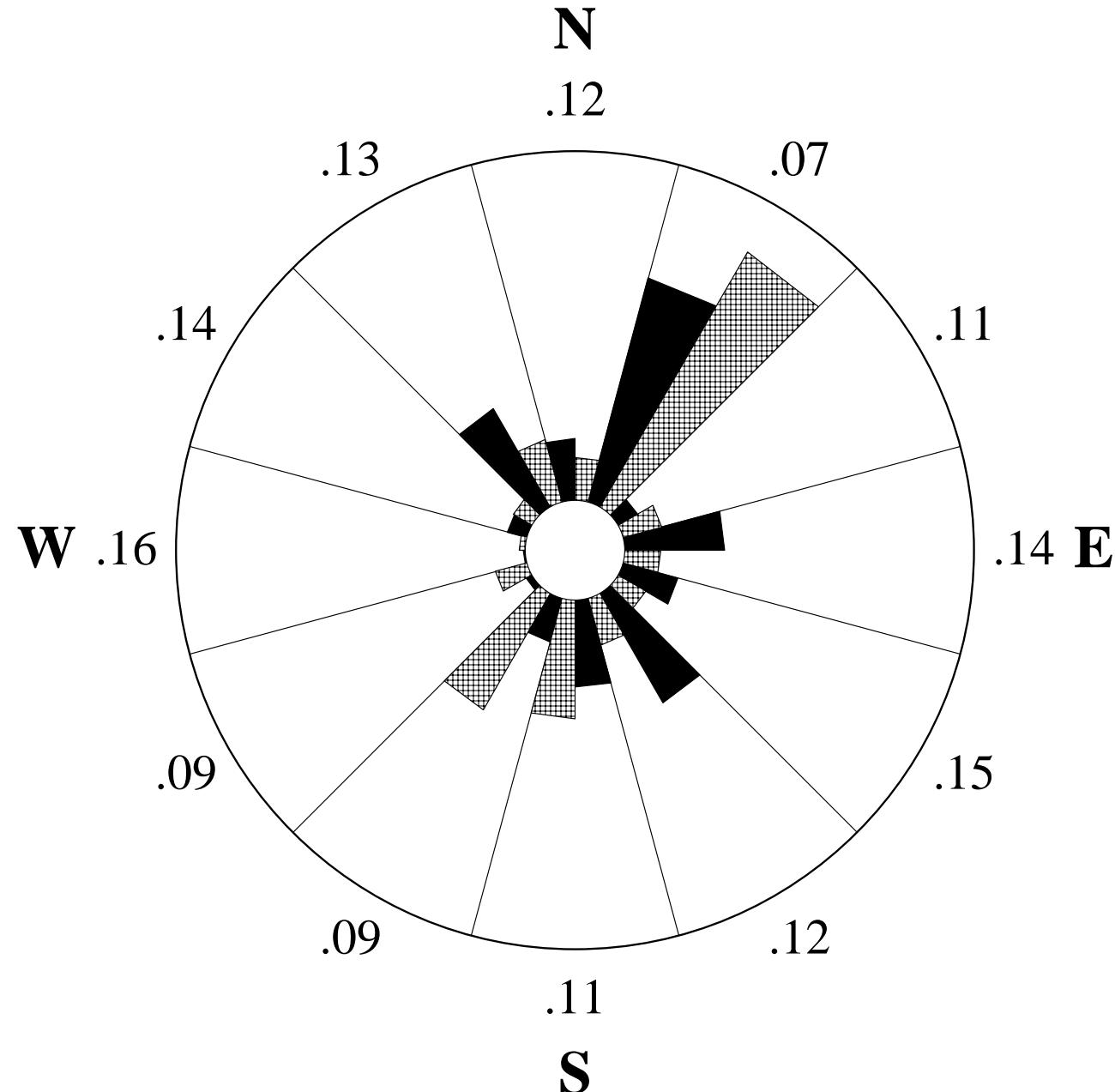
Outer Circle = 40%



Percent of Total Wind Energy



Percent of Total Time



juli 2008

Wind Rose Ch 5,7

SITE 1601

Nanortalik

Site Information:

Project: Nanortalik kommune

Location: Grønnland

Elevation:

Anemometer on channel 5:

NRG IceFreeIII 47m

Height: 47.5 m

Serial #: SN:12642

Vane on channel 7:

NRG IceFree III 47m

Height: 47.2m

Serial #: SN:30309

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

Inner Circle = 0%

Outer Circle = 40%

Percent of Total Wind Energy

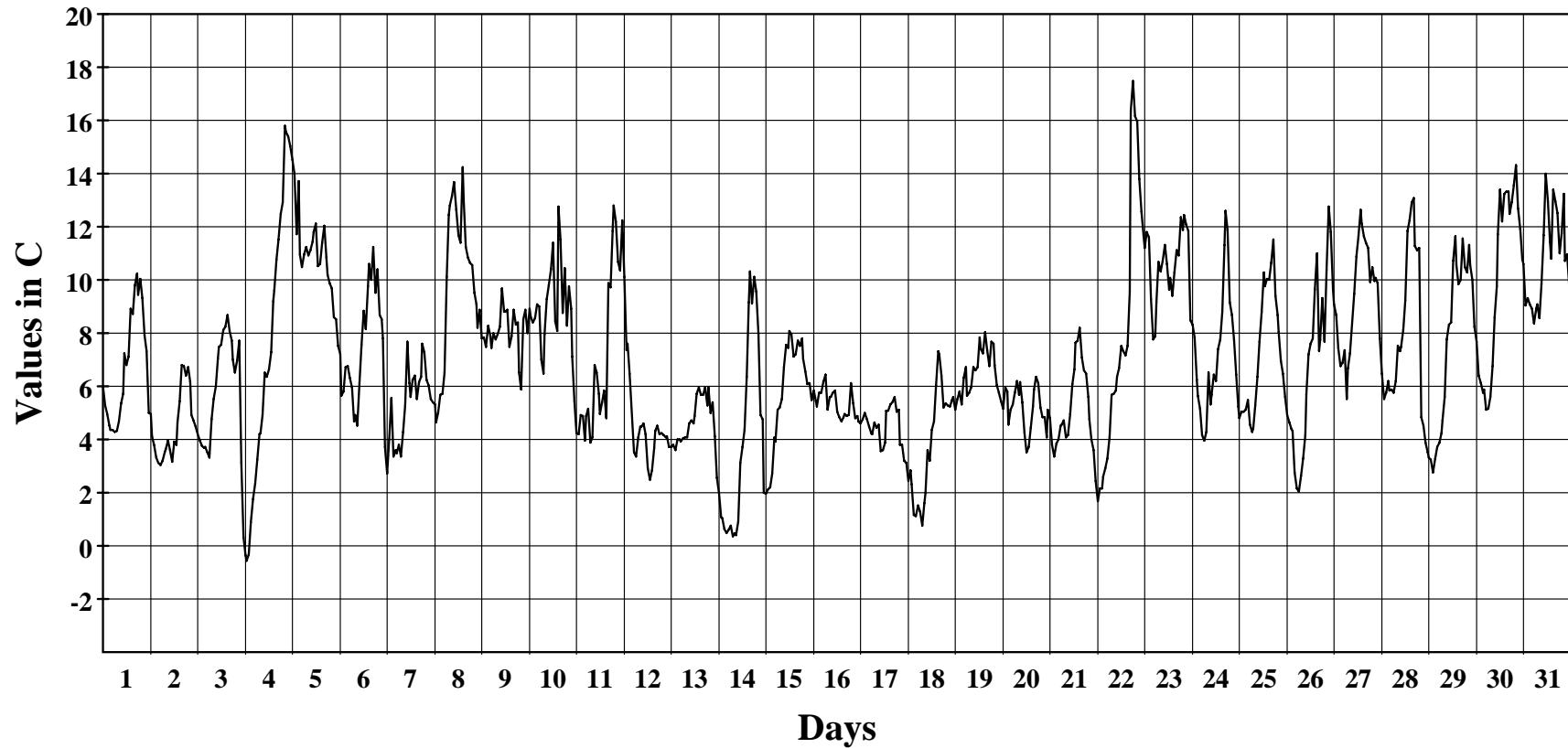
Percent of Total Time

Site Information:

Project: Nanortalik kommune
Location: Grønland
Elevation:

Sensor on channel 9:

NRG #110S Temp C
Height: 0
Serial #: SN:

juli 2008**Hourly Averages Graph Ch 9**
SITE 1601
Nanortalik**Average Hourly Values****Average Value: 7.0**