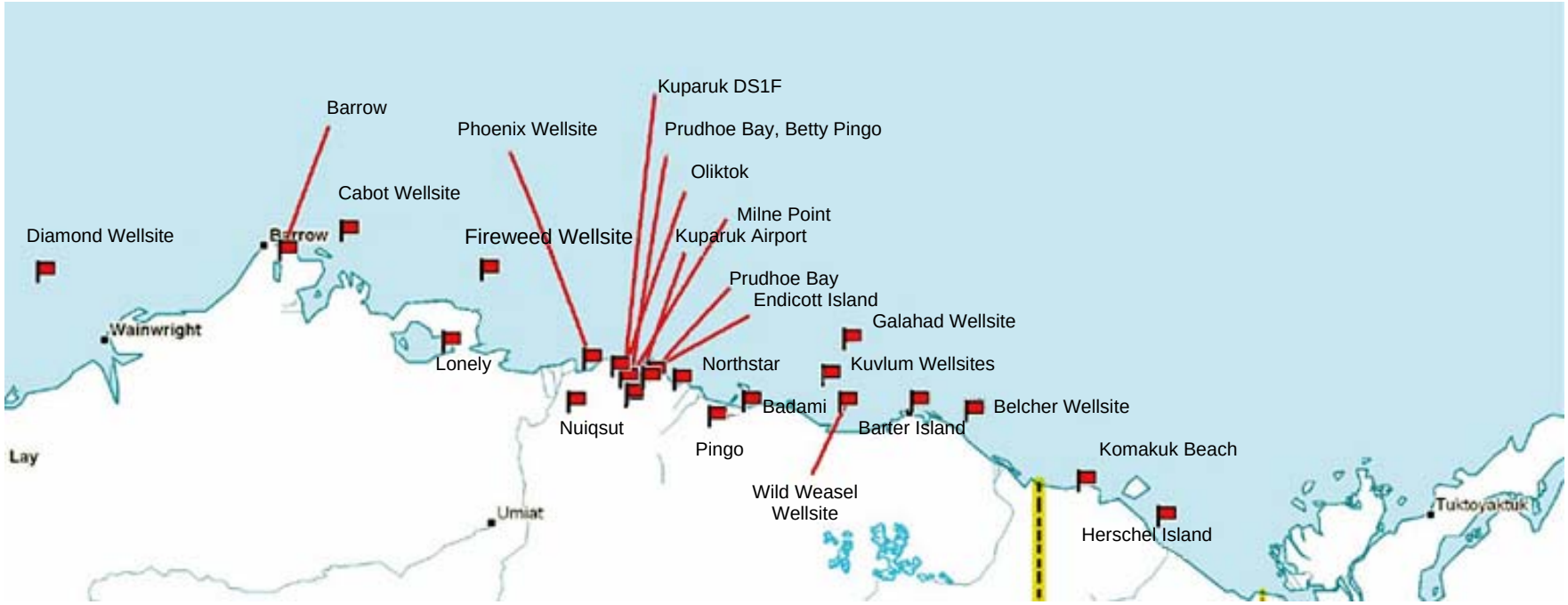
APPENDIX A

Historical Wind Data Inventory and Map

(The database is included on the CD in the back of this report)

Historical Wind Data Inventory

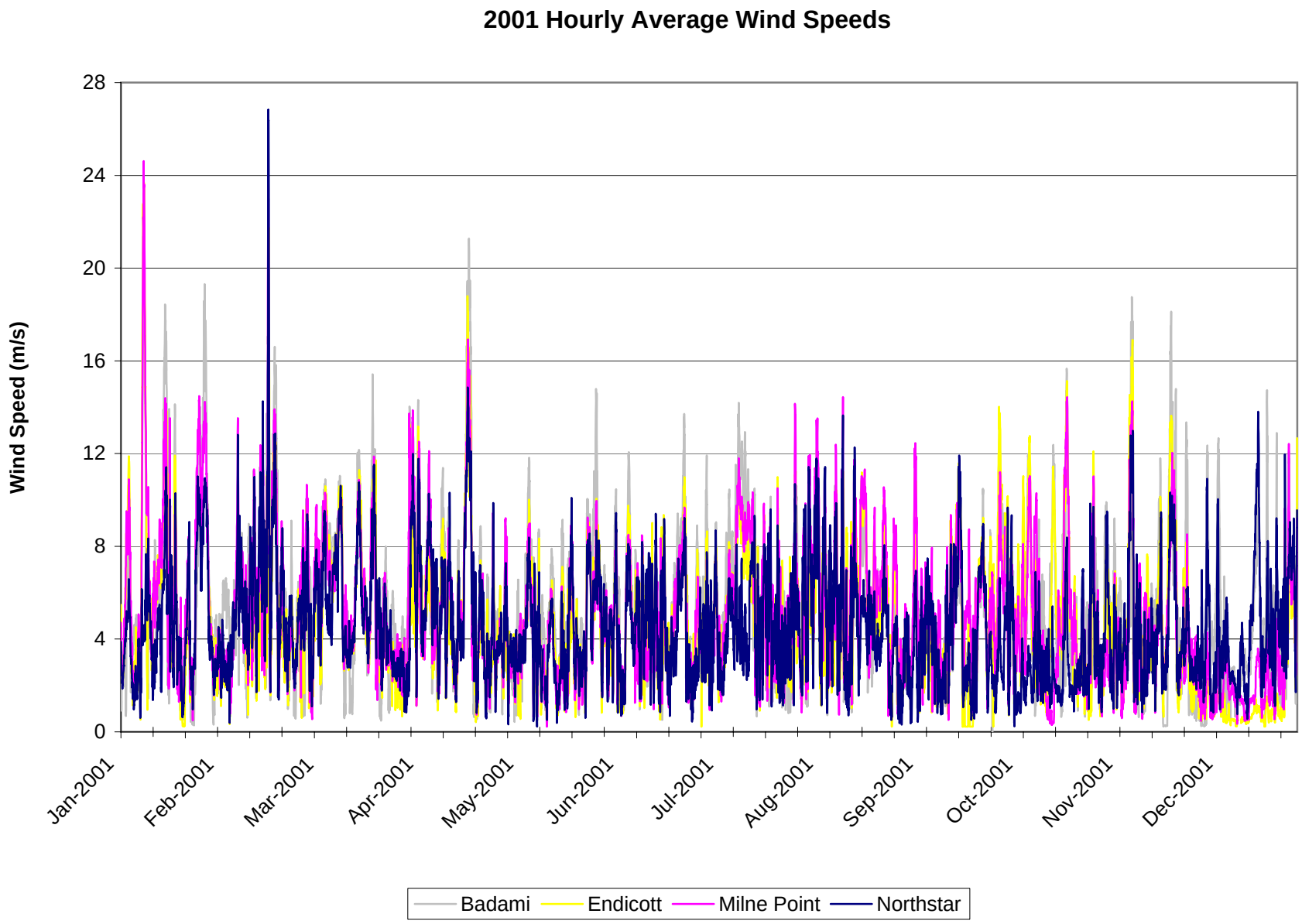
Station ID	Name	Latitude	Longitude	Data Start	Data End	Source
1	Aurora Wellsite	70.109	-142.785	9/12/87	9/12/88	HCG Historical Wind Database
5	Barter Island DEW #2	70.133	-143.583	11/4/90	10/9/96	HCG Historical Wind Database
6	Belcher Wellsite	70.275	-141.513	9/1/88	8/31/89	HCG Historical Wind Database
7	Betty Pingo	70.28	-148.896	5/27/94	1/1/04	HCG Historical Wind Database
8	Cabot Wellsite	71.324	-155.216	10/31/91	2/29/92	HCG Historical Wind Database
10	Diamond Wellsite	71.333	-161.68	8/31/91	10/5/91	HCG Historical Wind Database
12	Fireweed Wellsite	71.088	-152.603	10/14/90	12/20/90	HCG Historical Wind Database
13	Galahad Wellsite	70.561	-144.96	9/13/91	10/14/91	HCG Historical Wind Database
14	Herschel Island, Y.T.	69.567	-138.917	10/16/86	8/11/01	HCG Historical Wind Database
15	Komakuk Beach, Y.T.	69.583	-140.183	1/1/85	6/30/93	HCG Historical Wind Database
16	Kuparuk Airport	70.317	-149.583	2/4/91	12/31/04	HCG Historical Wind Database
17	Kuparuk DS-1F	70.29	-149.68	1/1/91	6/30/02	HCG Historical Wind Database
18	Kuvlum Wellsite #2	70.31	-145.538	7/19/93	8/30/93	HCG Historical Wind Database
19	Kuvlum Wellsite #3	70.327	-145.404	8/31/93	9/30/93	HCG Historical Wind Database
20	Lonely DEW	70.917	-153.233	1/1/85	3/25/88	HCG Historical Wind Database
23	Nuiqsut	70.218	-150.993	4/9/99	12/31/04	HCG Historical Wind Database
24	Oliktok #1	70.5	-149.9	1/1/85	6/6/94	HCG Historical Wind Database
25	Oliktok #2	70.5	-149.883	1/1/90	9/26/95	HCG Historical Wind Database
26	Phoenix Wellsite	70.717	-150.428	9/2/86	9/9/87	HCG Historical Wind Database
27	Prudhoe Bay	70.25	-148.333	6/3/87	6/14/99	HCG Historical Wind Database
28	Wild Weasel Wellsite	70.229	-145.499	9/30/93	11/10/93	HCG Historical Wind Database
29	West Dock	70.381	-148.561	7/14/95	1/1/04	HCG Historical Wind Database
111	Badami	70.136	-147.009	1/1/01	3/1/05	MetStat Weather Database
222	Endicott	70.323	-147.865	1/1/01	3/1/05	MetStat Weather Database
333	Milne Point	70.507	-149.662	1/1/01	3/1/05	MetStat Weather Database
444	North Star	70.49	-148.698	1/1/01	3/1/05	MetStat Weather Database
499	Cottle Island	70.499	-149.093	8/21/02	3/1/05	MetStat Weather Database
555	McCovey	70.528	-148.187	11/30/02	2/9/03	MetStat Weather Database
26616	Kotzebue	66.886	-162.604	1/1/84	12/31/99	UAA
27401	Barter	70.133	-143.633	1/1/84	12/31/04	UAA NCAR Database
27406	Deadhorse	70.2	-148.467	1/1/85	12/31/04	UAA, HCG, NCDC
27502	Barrow	71.284	-156.778	1/1/84	12/31/04	UAA, HCG, NCDC

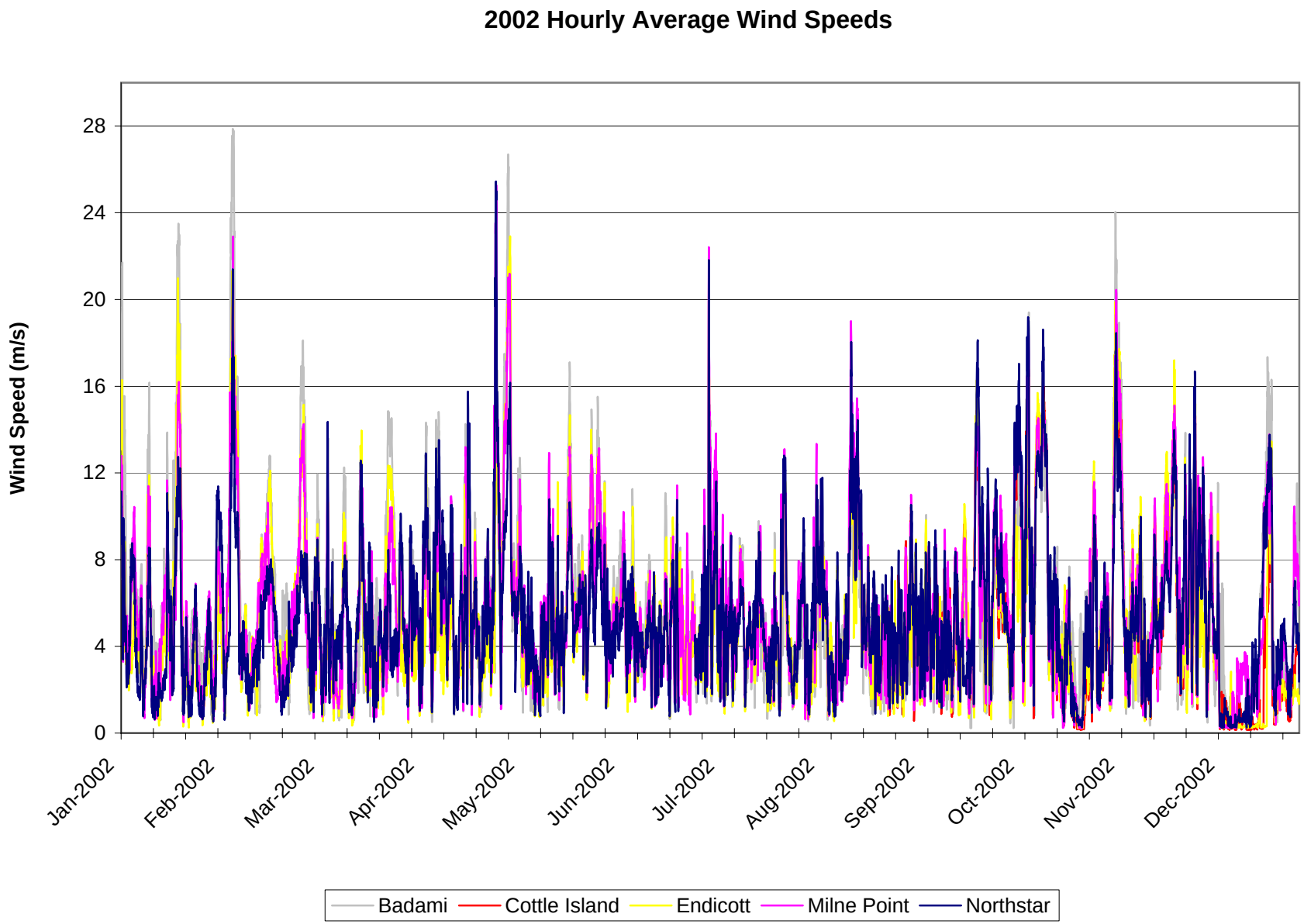


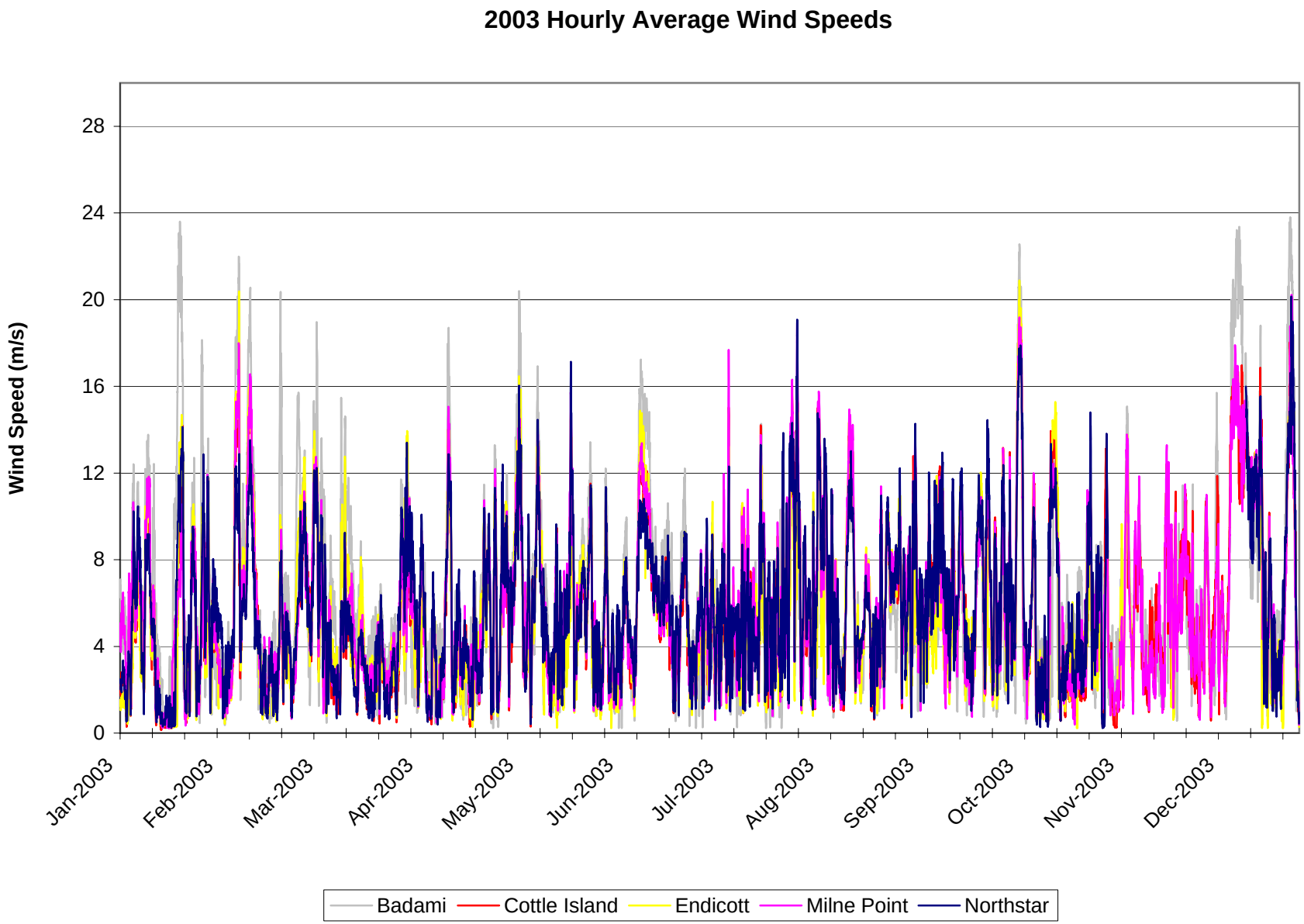
Historical Meteorological Station Location Map

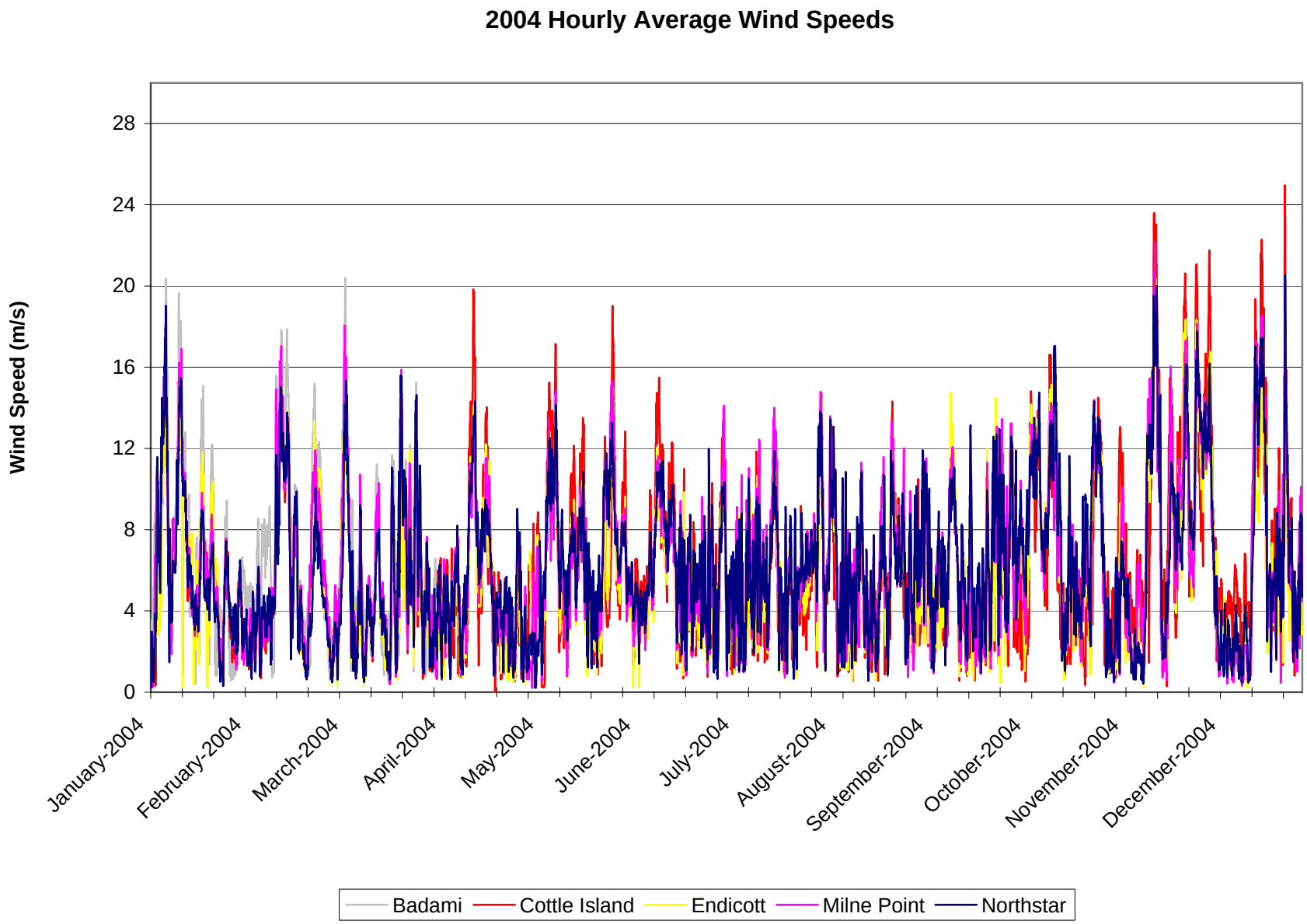
APPENDIX B

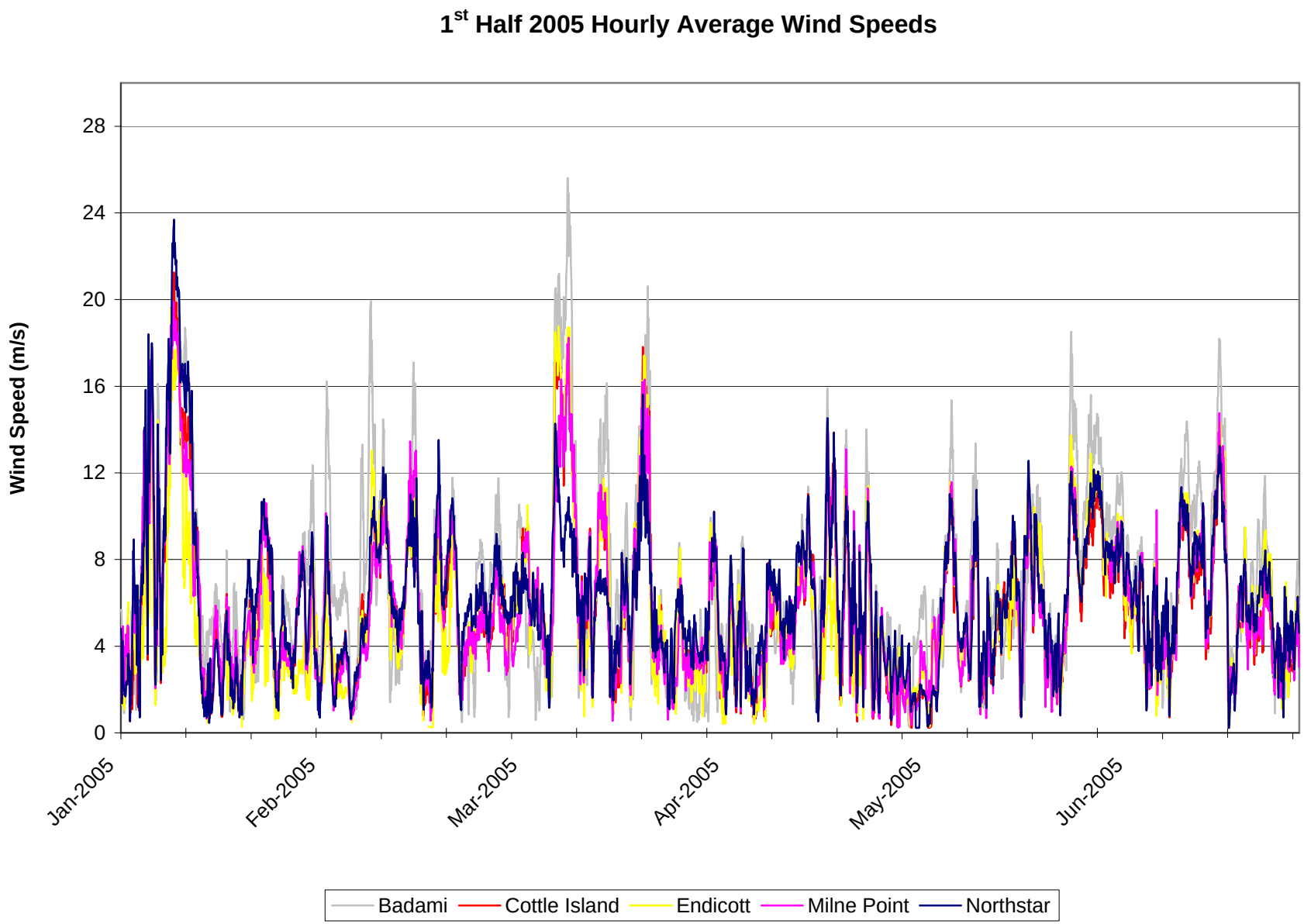
Yearly Graphs

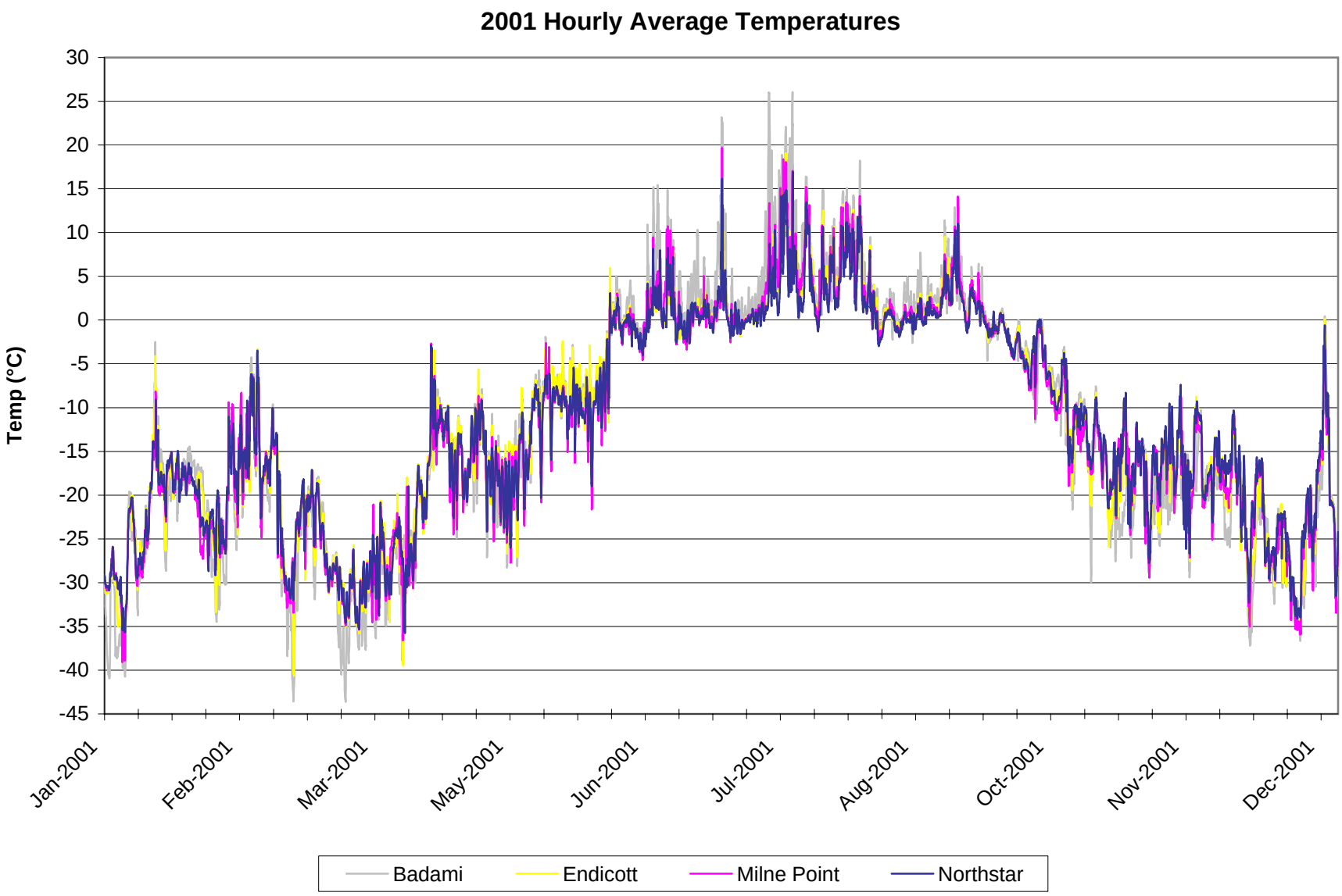

2001 Hourly Average Wind Speeds
Wind Speed (m/s)
28
24
20
16
12
8
4
0
Jan-2001
Feb-2001
Mar-2001
Apr-2001
May-2001
Jun-2001
Jul-2001
Aug-2001
Sep-2001
Oct-2001
Nov-2001
Dec-2001
Badami
Endicott
Milne Point
Northstar

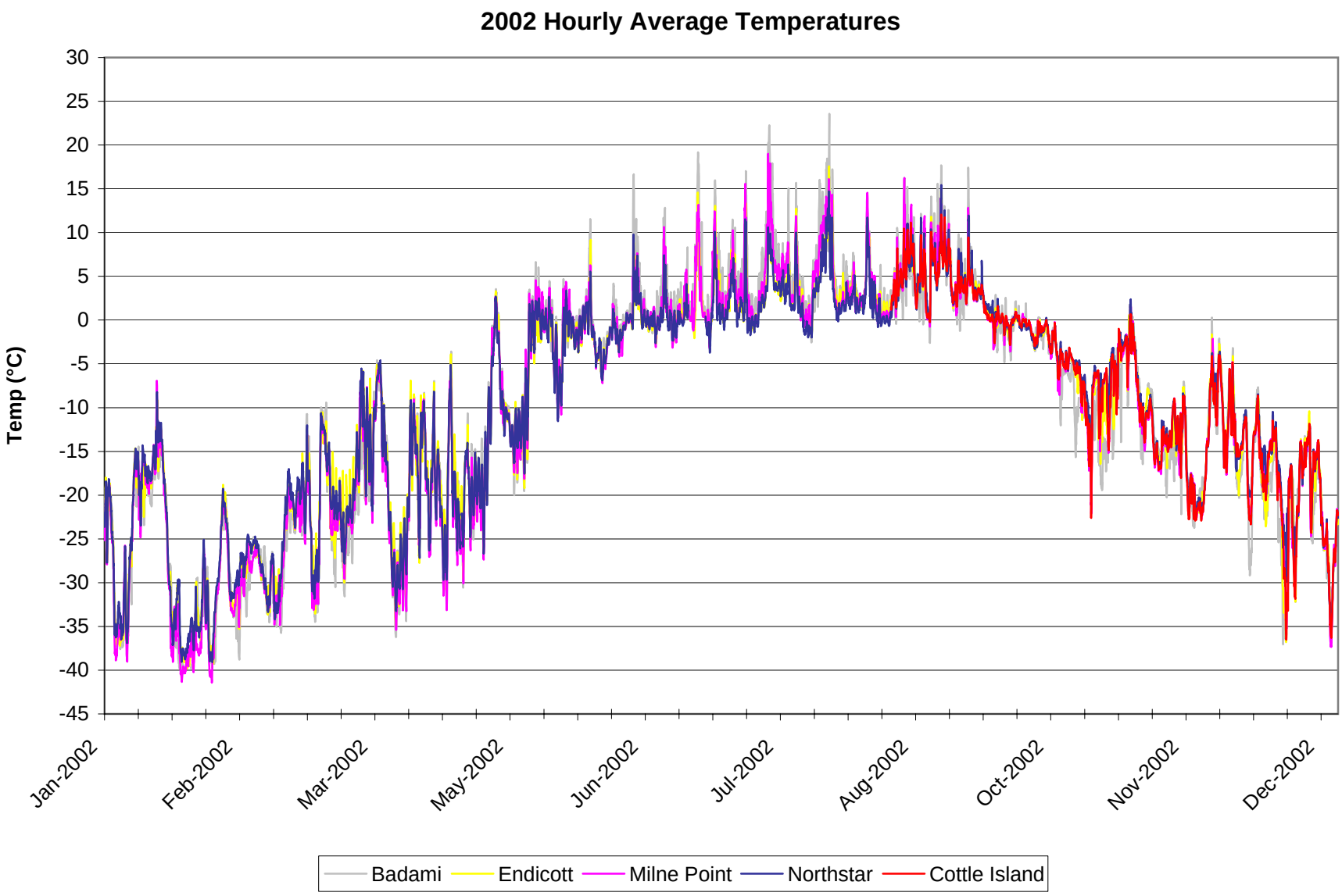

2002 Hourly Average Wind Speeds
Wind Speed (m/s)
0
4
8
12
16
20
24
28
Jan-2002
Feb-2002
Mar-2002
Apr-2002
May-2002
Jun-2002
Jul-2002
Aug-2002
Sep-2002
Oct-2002
Nov-2002
Dec-2002
Badami
Cottle Island
Endicott
Milne Point
Northstar

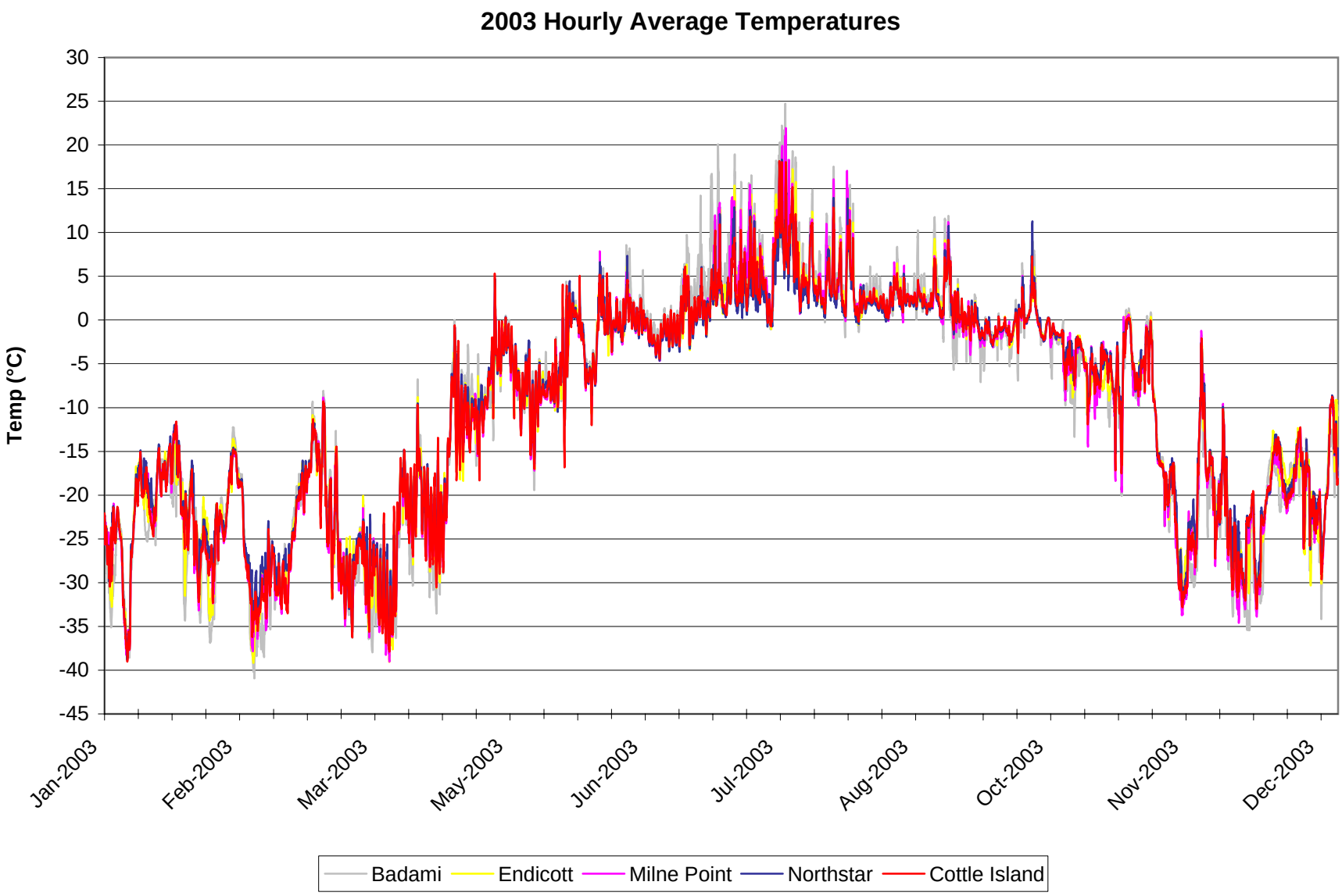

2003 Hourly Average Wind Speeds
Wind Speed (m/s)
0
4
8
12
16
20
24
28
Jan-2003
Feb-2003
Mar-2003
Apr-2003
May-2003
Jun-2003
Jul-2003
Aug-2003
Sep-2003
Oct-2003
Nov-2003
Dec-2003
Badami
Cottle Island
Endicott
Milne Point
Northstar

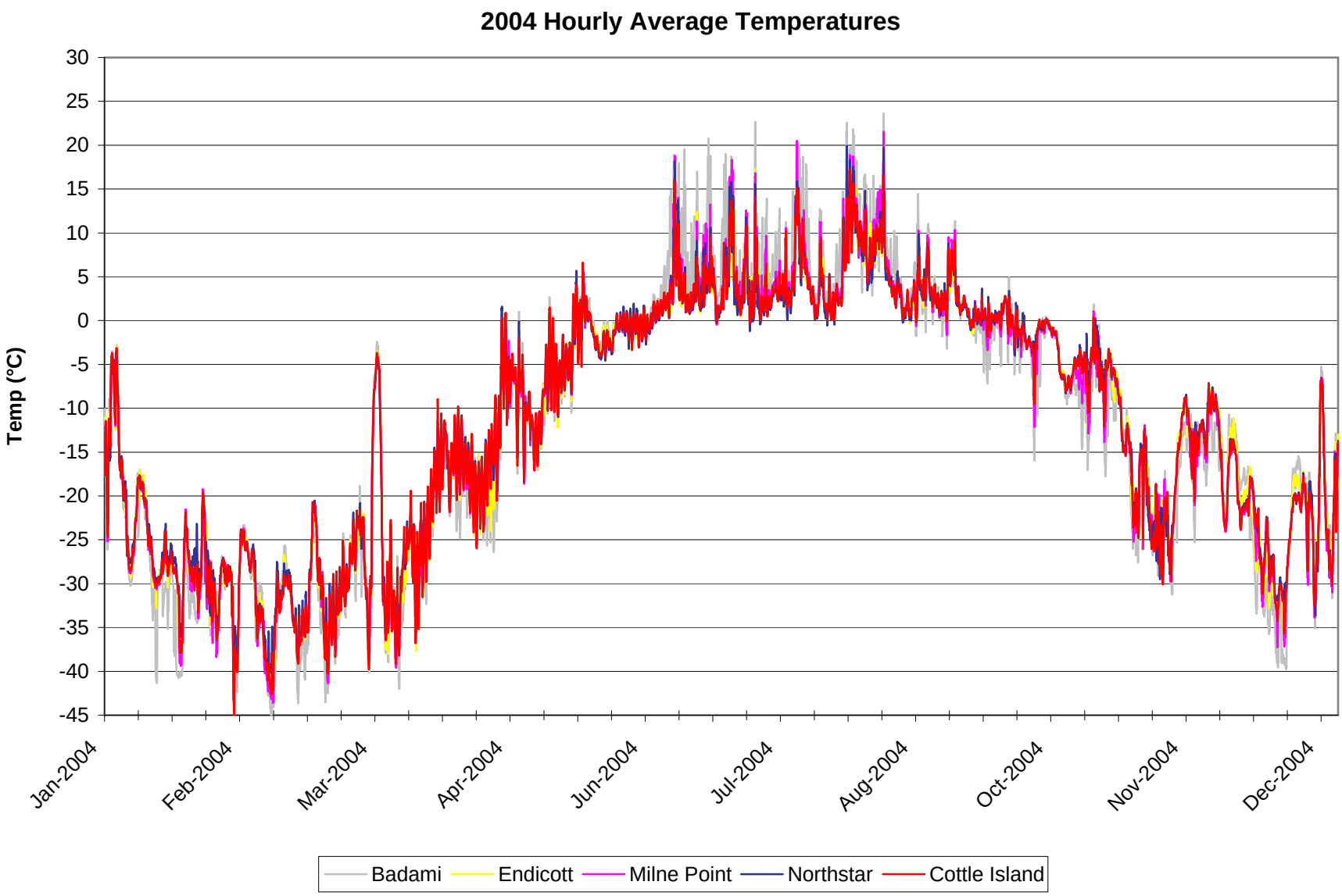

2004 Hourly Average Wind Speeds
Wind Speed (m/s)
0
4
8
12
16
20
24
28
January-2004
February-2004
March-2004
April-2004
May-2004
June-2004
July-2004
August-2004
September-2004
October-2004
November-2004
December-2004
Badami
Cottle Island
Endicott
Milne Point
Northstar

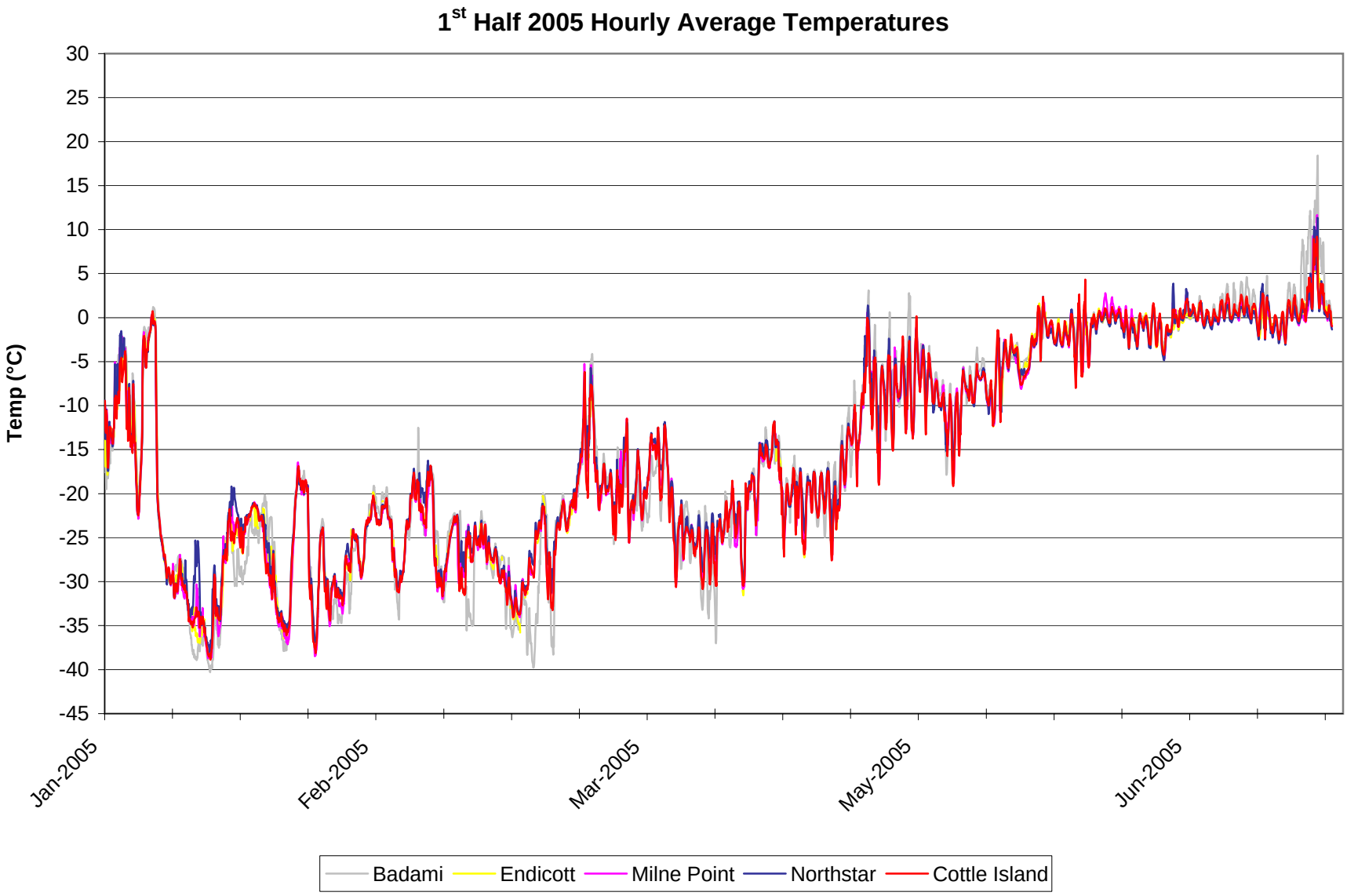

1st Half 2005 Hourly Average Wind Speeds
Wind Speed (m/s)
0
4
8
12
16
20
24
28
Jan-2005
Feb-2005
Mar-2005
Apr-2005
May-2005
Jun-2005
Badami
Cottle Island
Endicott
Milne Point
Northstar

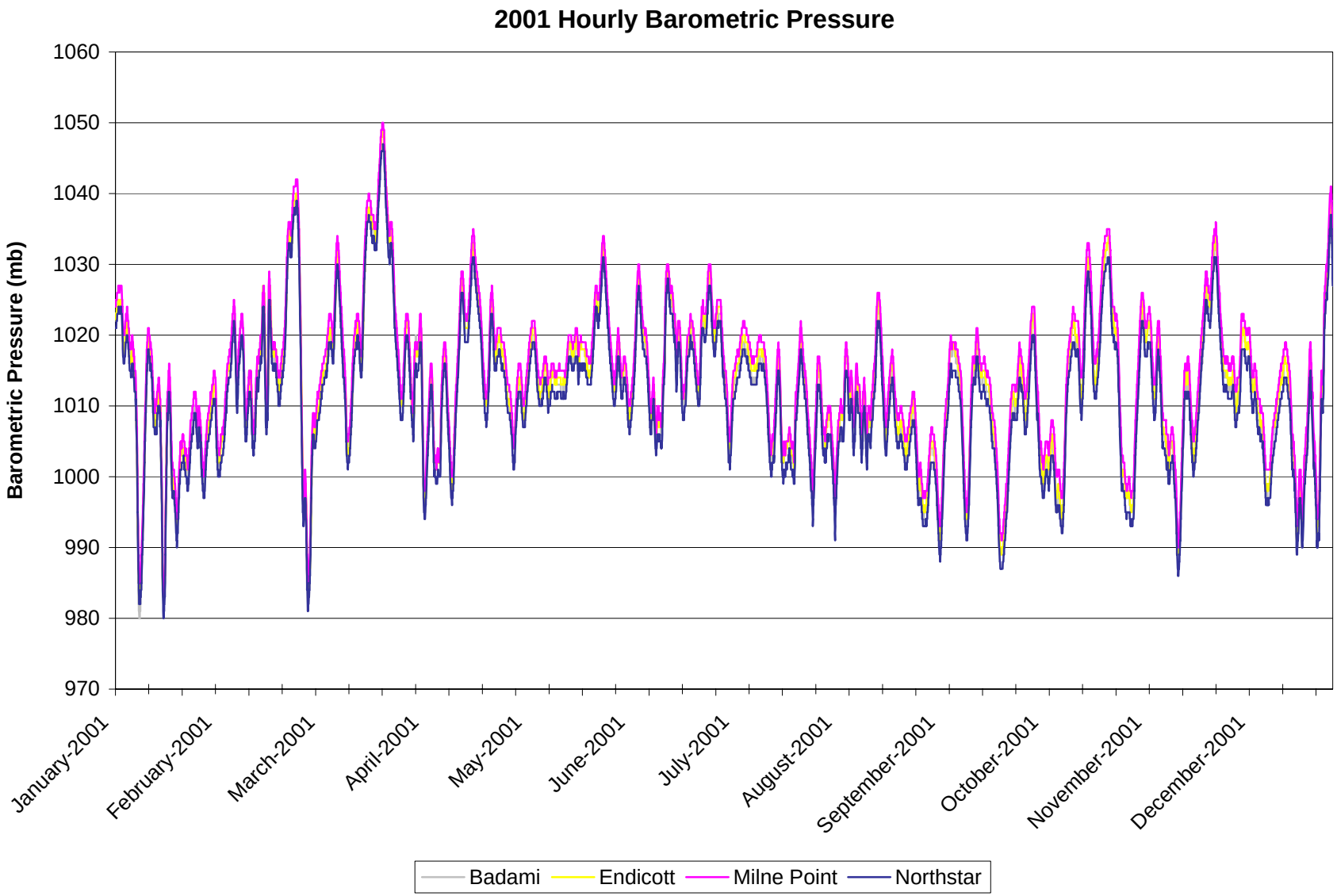

2001 Hourly Average Temperatures
Temp (°C)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
Jan-2001
Feb-2001
Mar-2001
May-2001
Jun-2001
Jul-2001
Aug-2001
Oct-2001
Nov-2001
Dec-2001
Badami
Endicott
Milne Point
Northstar

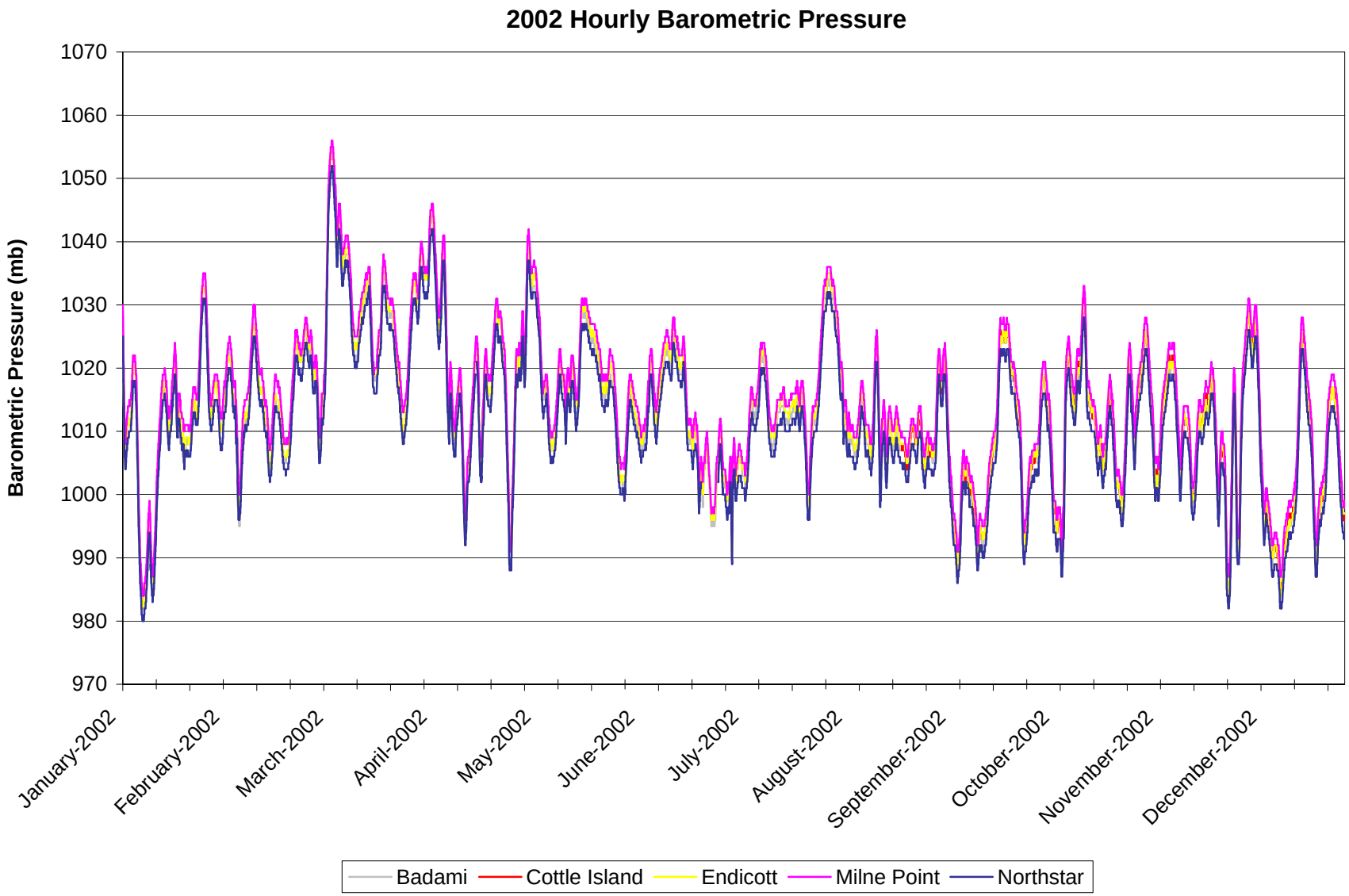

2002 Hourly Average Temperatures
Temp (°C)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
Jan-2002
Feb-2002
Mar-2002
May-2002
Jun-2002
Jul-2002
Aug-2002
Oct-2002
Nov-2002
Dec-2002
Badami
Endicott
Milne Point
Northstar
Cottle Island

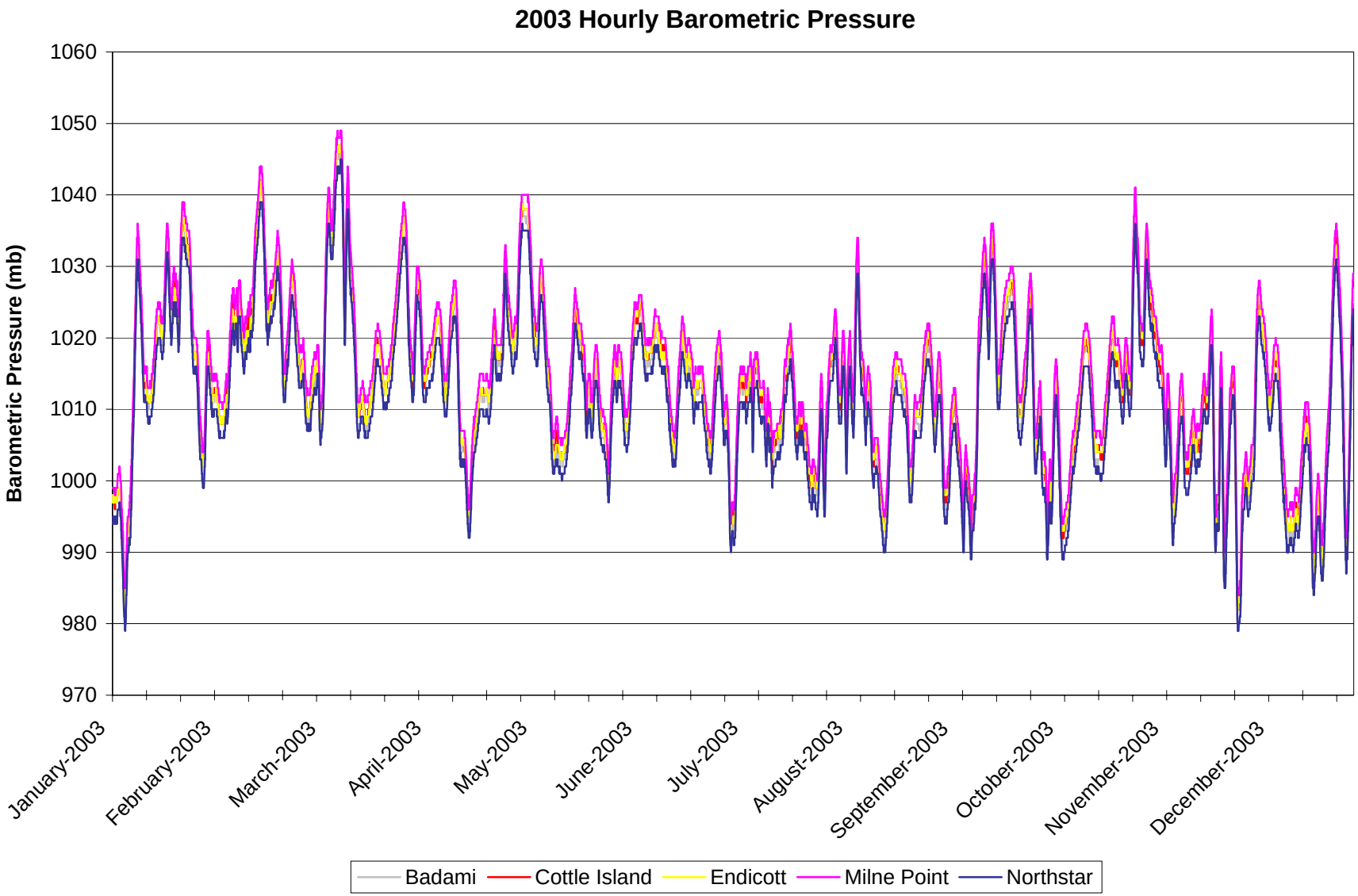

2003 Hourly Average Temperatures
Temp (°C)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
Jan-2003
Feb-2003
Mar-2003
May-2003
Jun-2003
Jul-2003
Aug-2003
Oct-2003
Nov-2003
Dec-2003
Badami
Endicott
Milne Point
Northstar
Cottle Island

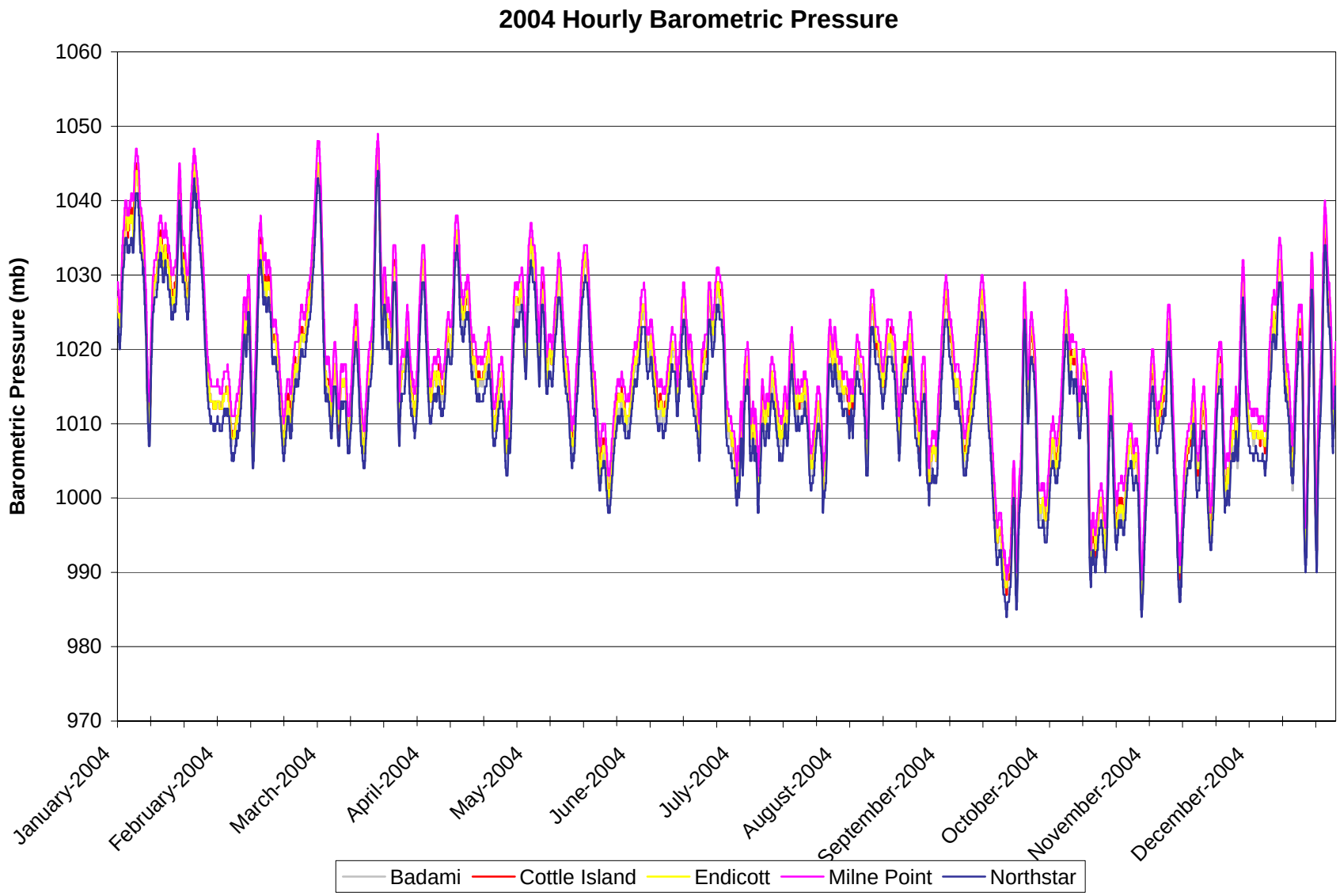

2004 Hourly Average Temperatures
Temp (°C)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
Jan-2004
Feb-2004
Mar-2004
Apr-2004
Jun-2004
Jul-2004
Aug-2004
Oct-2004
Nov-2004
Dec-2004
Badami
Endicott
Milne Point
Northstar
Cottle Island

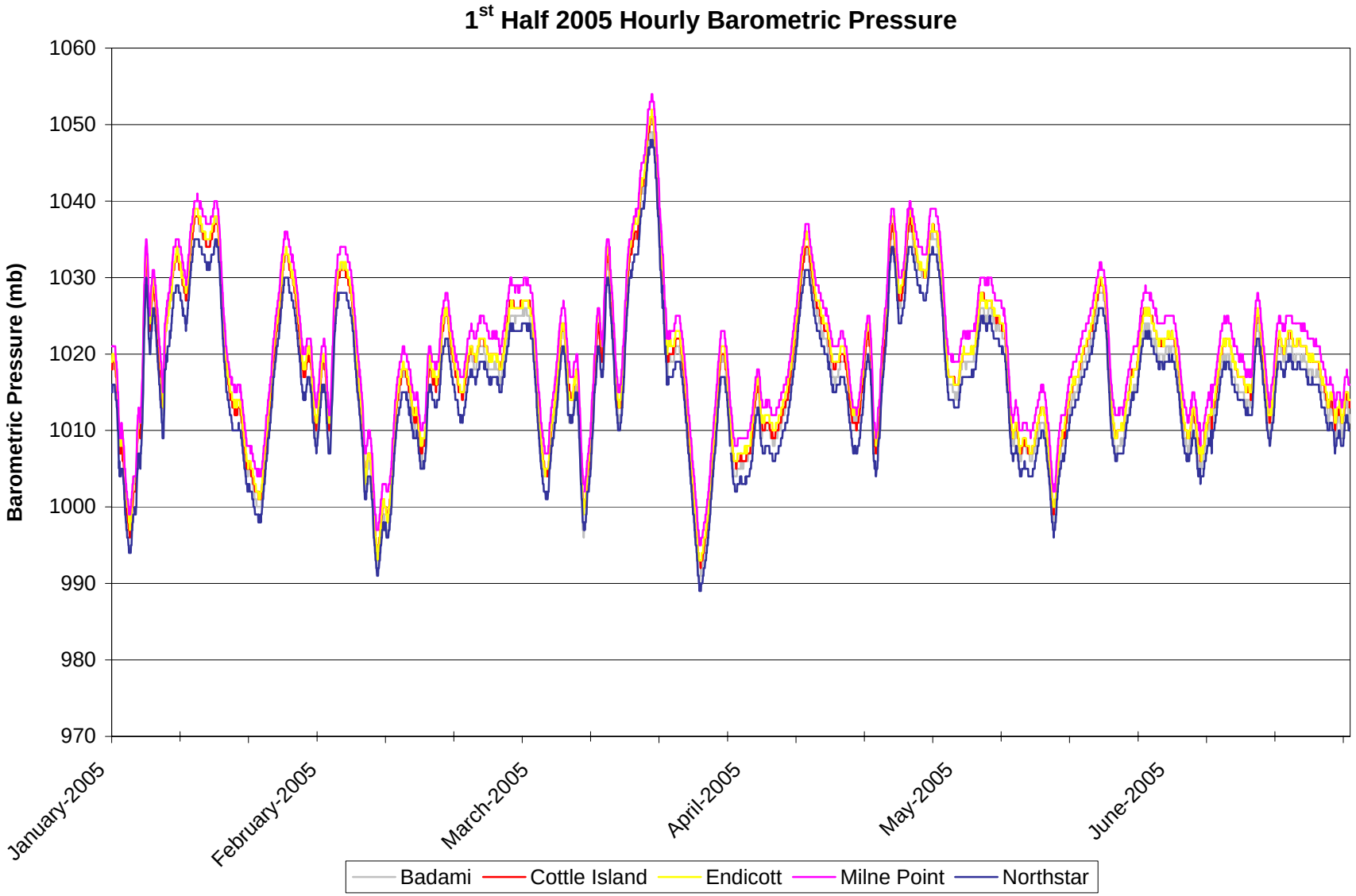

1st Half 2005 Hourly Average Temperatures
Temp (°C)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
Jan-2005
Feb-2005
Mar-2005
May-2005
Jun-2005
Badami
Endicott
Milne Point
Northstar
Cottle Island

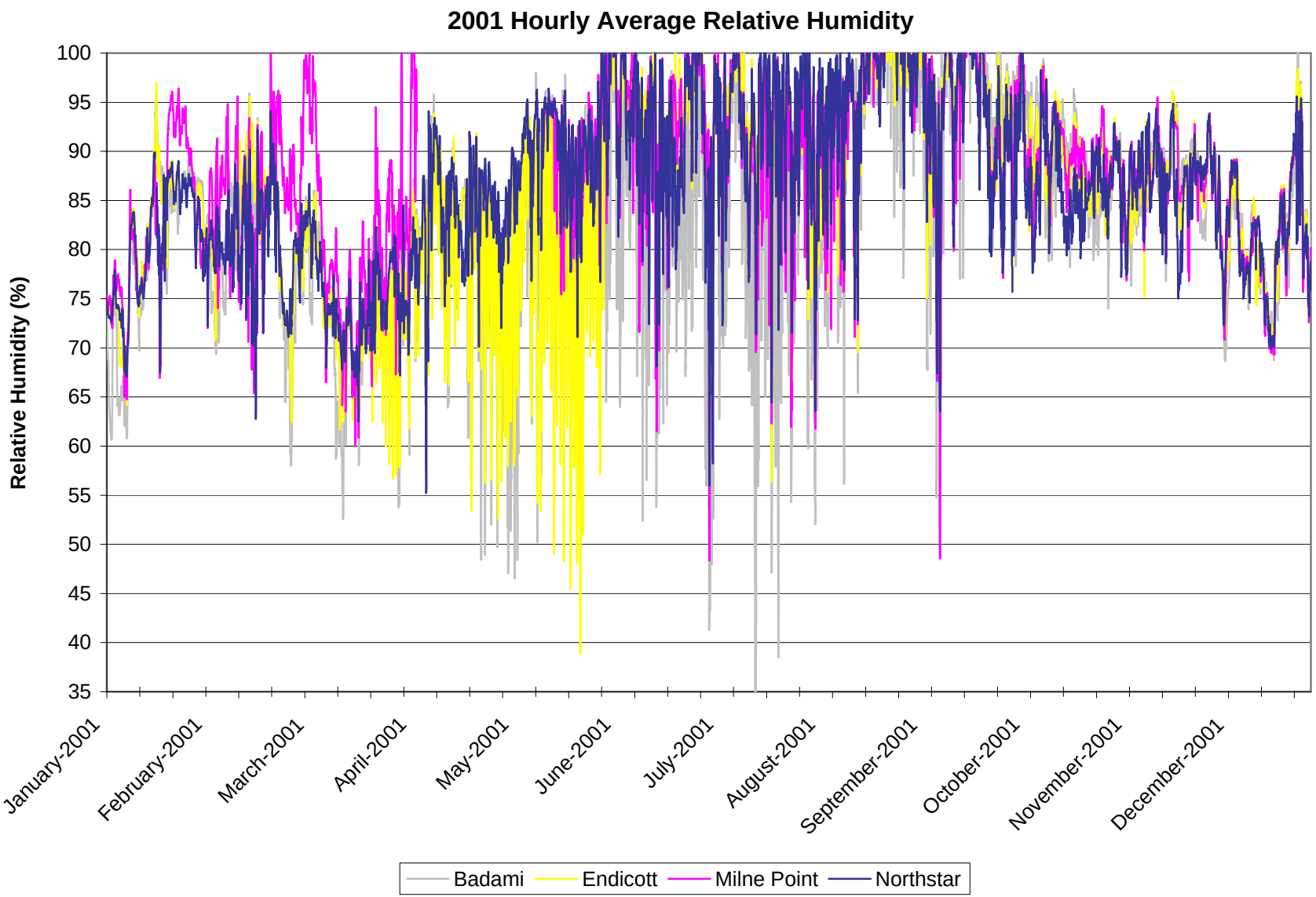

2001 Hourly Barometric Pressure
Barometric Pressure (mb)
1060
1050
1040
1030
1020
1010
1000
990
980
970
January-2001
February-2001
March-2001
April-2001
May-2001
June-2001
July-2001
August-2001
September-2001
October-2001
November-2001
December-2001
Badami
Endicott
Milne Point
Northstar

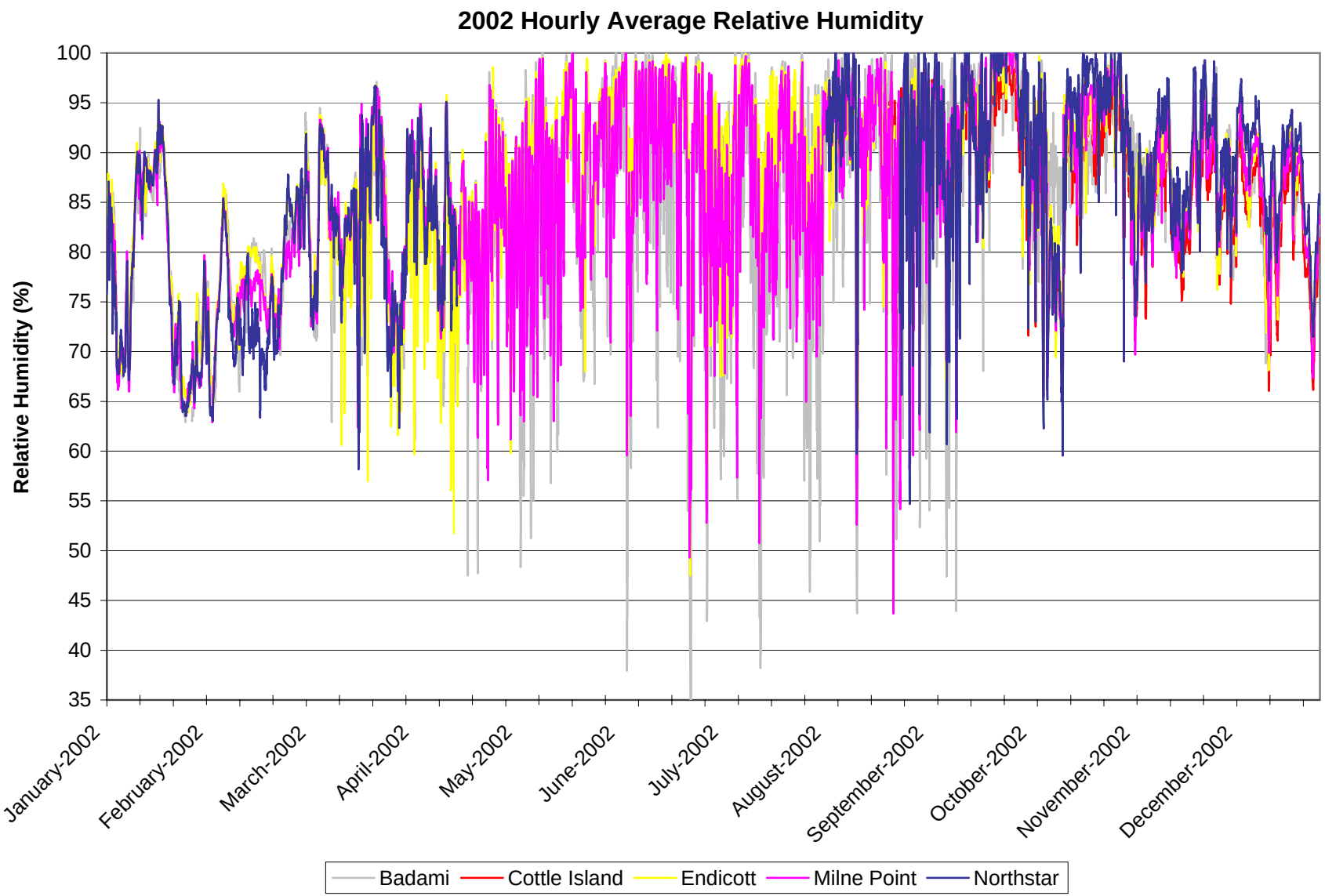

2002 Hourly Barometric Pressure
Barometric Pressure (mb)
1070
1060
1050
1040
1030
1020
1010
1000
990
980
970
January-2002
February-2002
March-2002
April-2002
May-2002
June-2002
July-2002
August-2002
September-2002
October-2002
November-2002
December-2002
Badami
Cottle Island
Endicott
Milne Point
Northstar

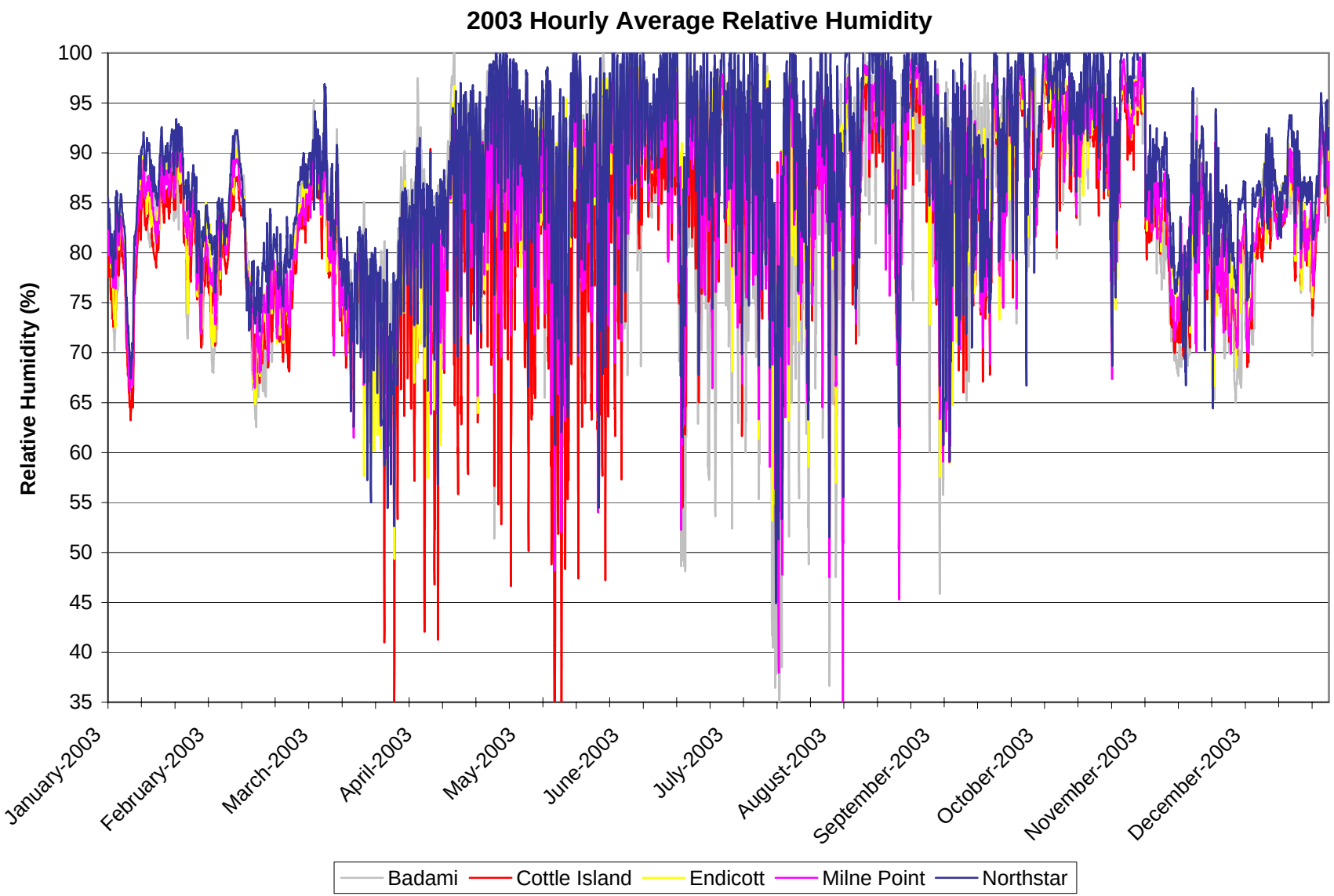

2003 Hourly Barometric Pressure
Barometric Pressure (mb)
1060
1050
1040
1030
1020
1010
1000
990
980
970
January-2003
February-2003
March-2003
April-2003
May-2003
June-2003
July-2003
August-2003
September-2003
October-2003
November-2003
December-2003
Badami
Cottle Island
Endicott
Milne Point
Northstar

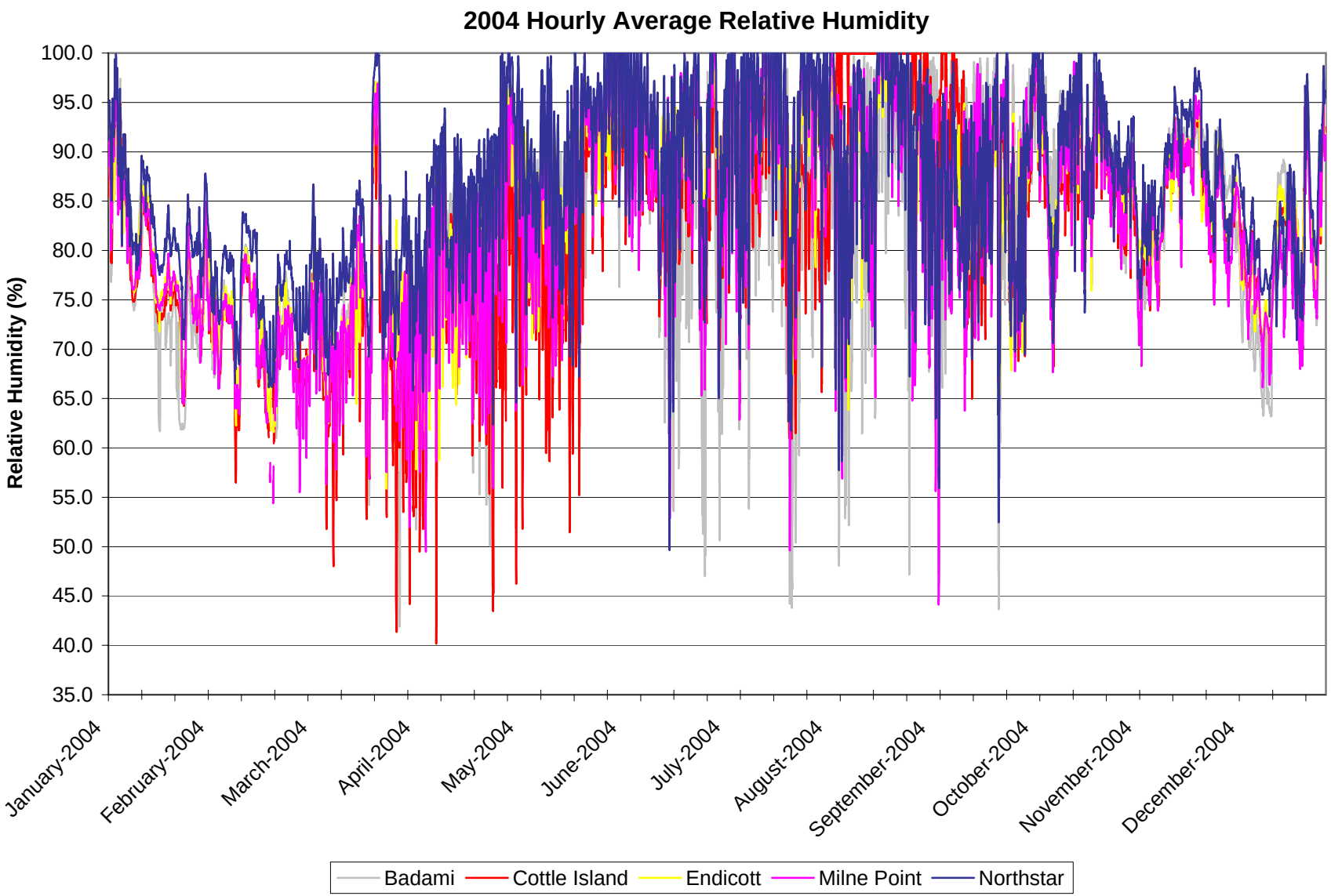

2004 Hourly Barometric Pressure
Barometric Pressure (mb)
1060
1050
1040
1030
1020
1010
1000
990
980
970
January-2004
February-2004
March-2004
April-2004
May-2004
June-2004
July-2004
August-2004
September-2004
October-2004
November-2004
December-2004
Badami
Cottle Island
Endicott
Milne Point
Northstar

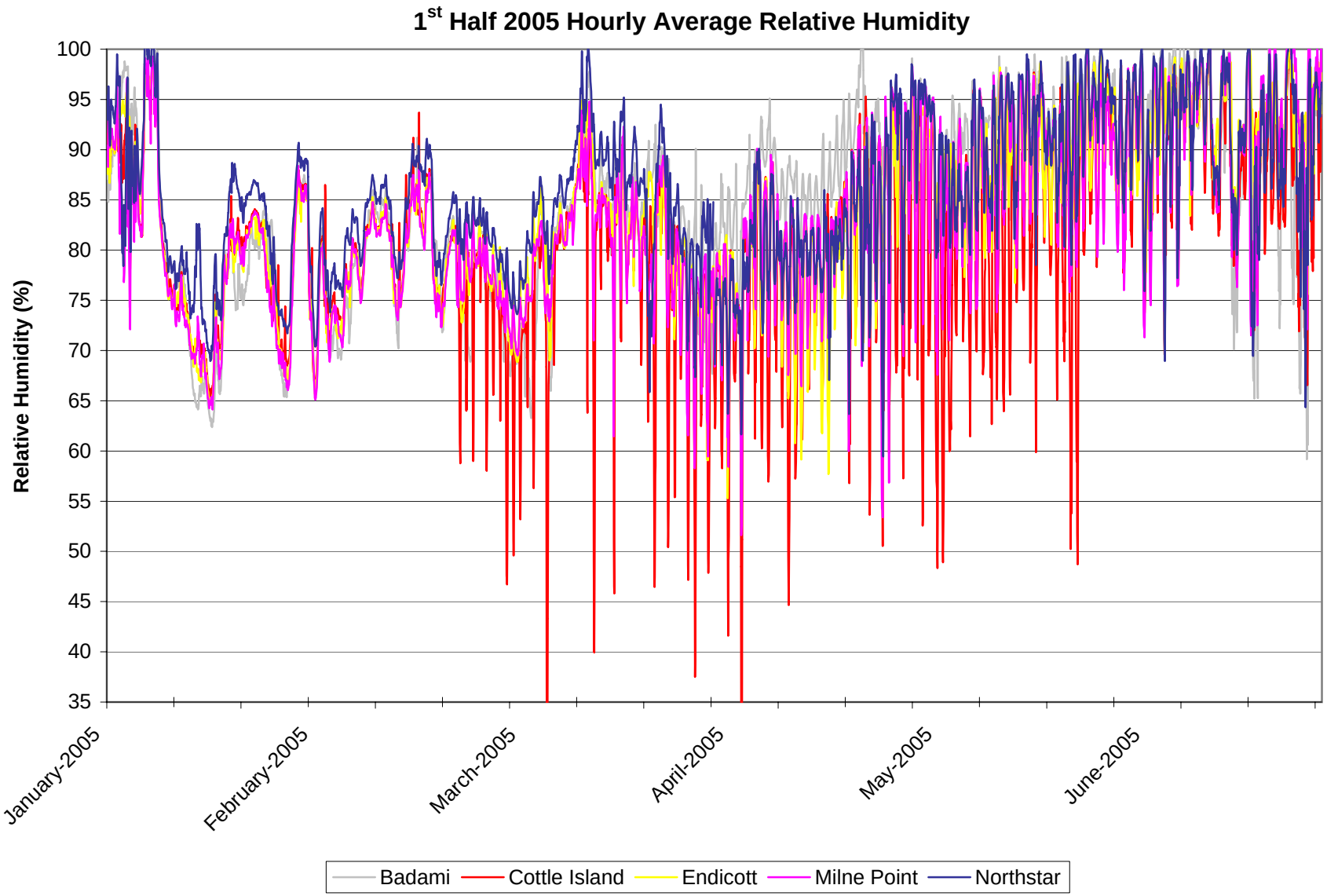

1st Half 2005 Hourly Barometric Pressure
Barometric Pressure (mb)
1060
1050
1040
1030
1020
1010
1000
990
980
970
January-2005
February-2005
March-2005
April-2005
May-2005
June-2005
Badami
Cottle Island
Endicott
Milne Point
Northstar

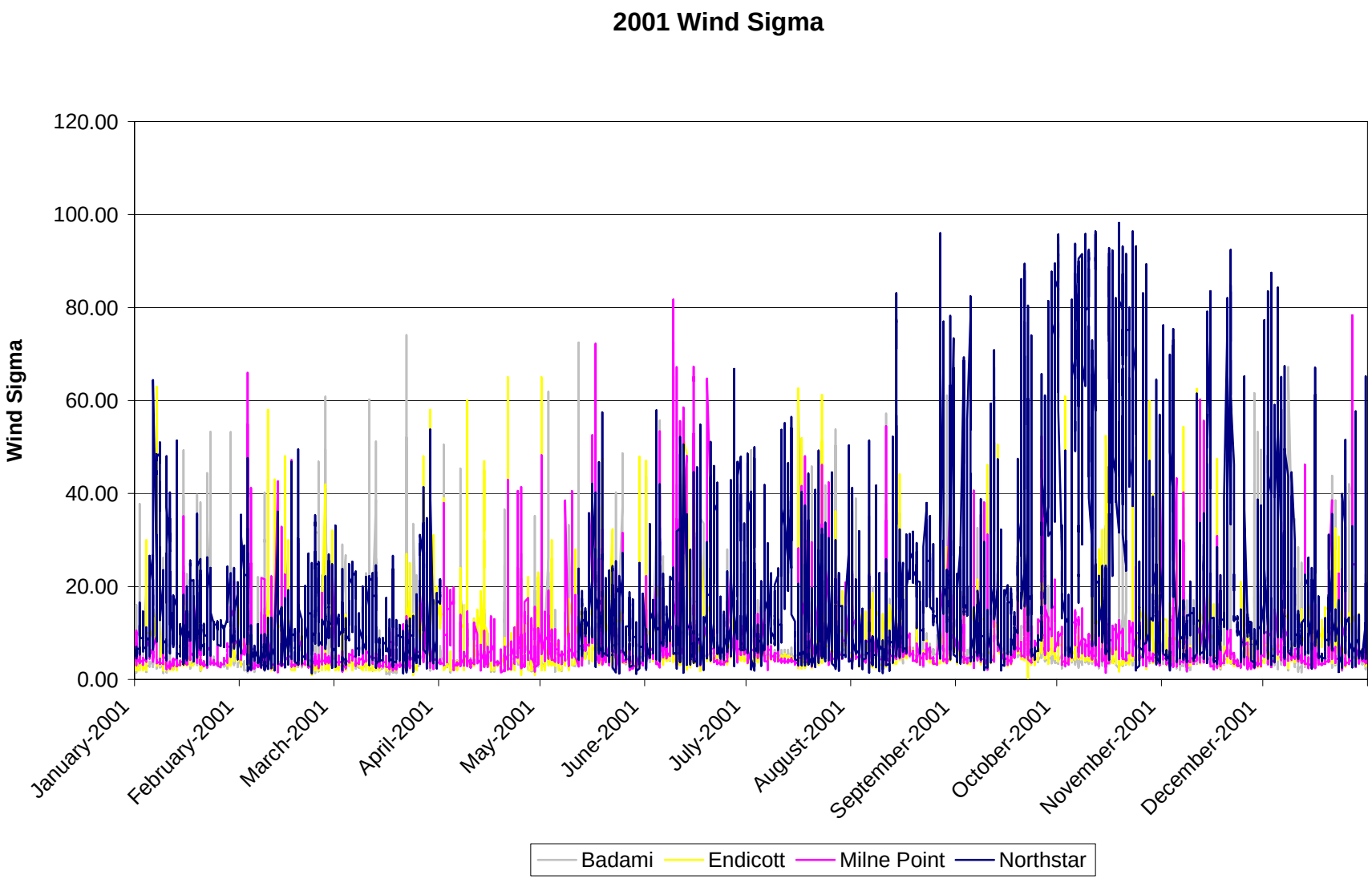

2001 Hourly Average Relative Humidity
Relative Humidity (%)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
January-2001
February-2001
March-2001
April-2001
May-2001
June-2001
July-2001
August-2001
September-2001
October-2001
November-2001
December-2001
Badami
Endicott
Milne Point
Northstar


2002 Hourly Average Relative Humidity
Relative Humidity (%)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
January-2002
February-2002
March-2002
April-2002
May-2002
June-2002
July-2002
August-2002
September-2002
October-2002
November-2002
December-2002
Badami
Cottle Island
Endicott
Milne Point
Northstar


2003 Hourly Average Relative Humidity
Relative Humidity (%)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
January-2003
February-2003
March-2003
April-2003
May-2003
June-2003
July-2003
August-2003
September-2003
October-2003
November-2003
December-2003
Badami
Cottle Island
Endicott
Milne Point
Northstar

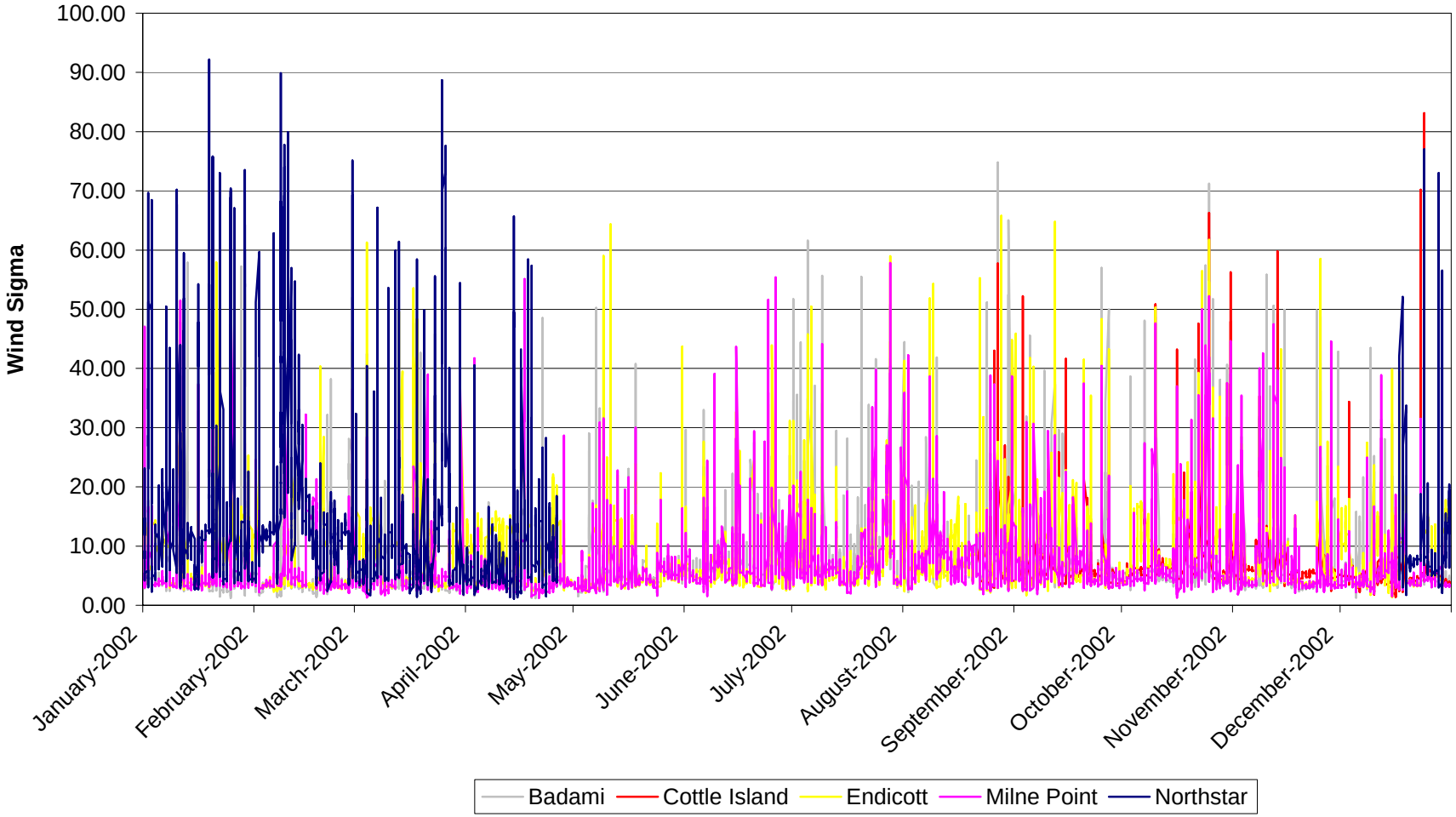

2004 Hourly Average Relative Humidity
Relative Humidity (%)
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
January-2004
February-2004
March-2004
April-2004
May-2004
June-2004
July-2004
August-2004
September-2004
October-2004
November-2004
December-2004
Badami
Cottle Island
Endicott
Milne Point
Northstar


1st Half 2005 Hourly Average Relative Humidity
Relative Humidity (%)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
January-2005
February-2005
March-2005
April-2005
May-2005
June-2005
Badami
Cottle Island
Endicott
Milne Point
Northstar

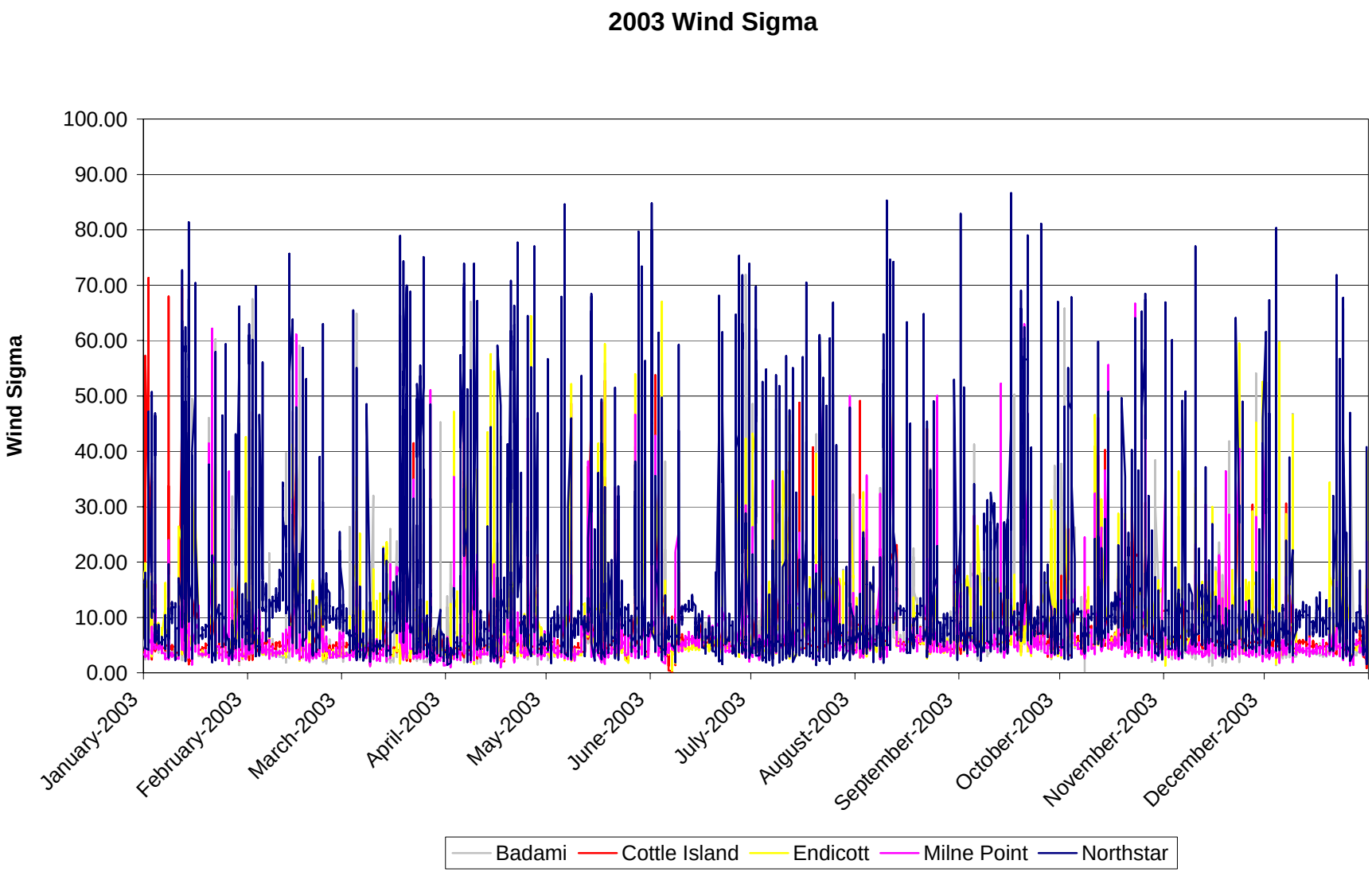


NOTE: Wind Sigma is measured at a height of 10 meters at Badami, Cottle Island, and Endicott, and at 14 meters and 23 meters at Milne Point and Northstar, respectively.

2002 Wind Sigma

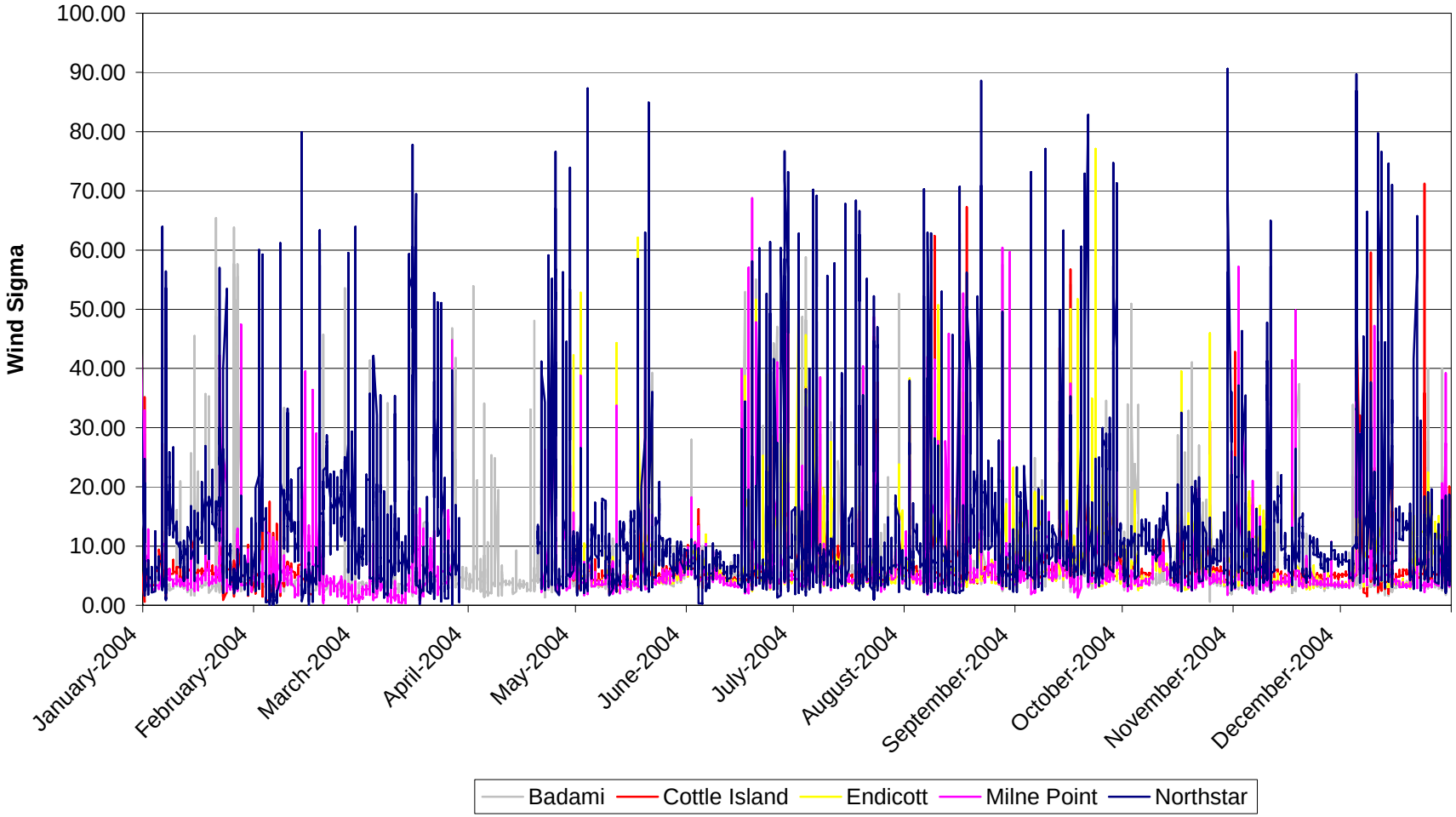


NOTE: Wind Sigma is measured at a height of 10 meters at Badami, Cottle Island, and Endicott, and at 14 meters and 23 meters at Milne Point and Northstar, respectively.



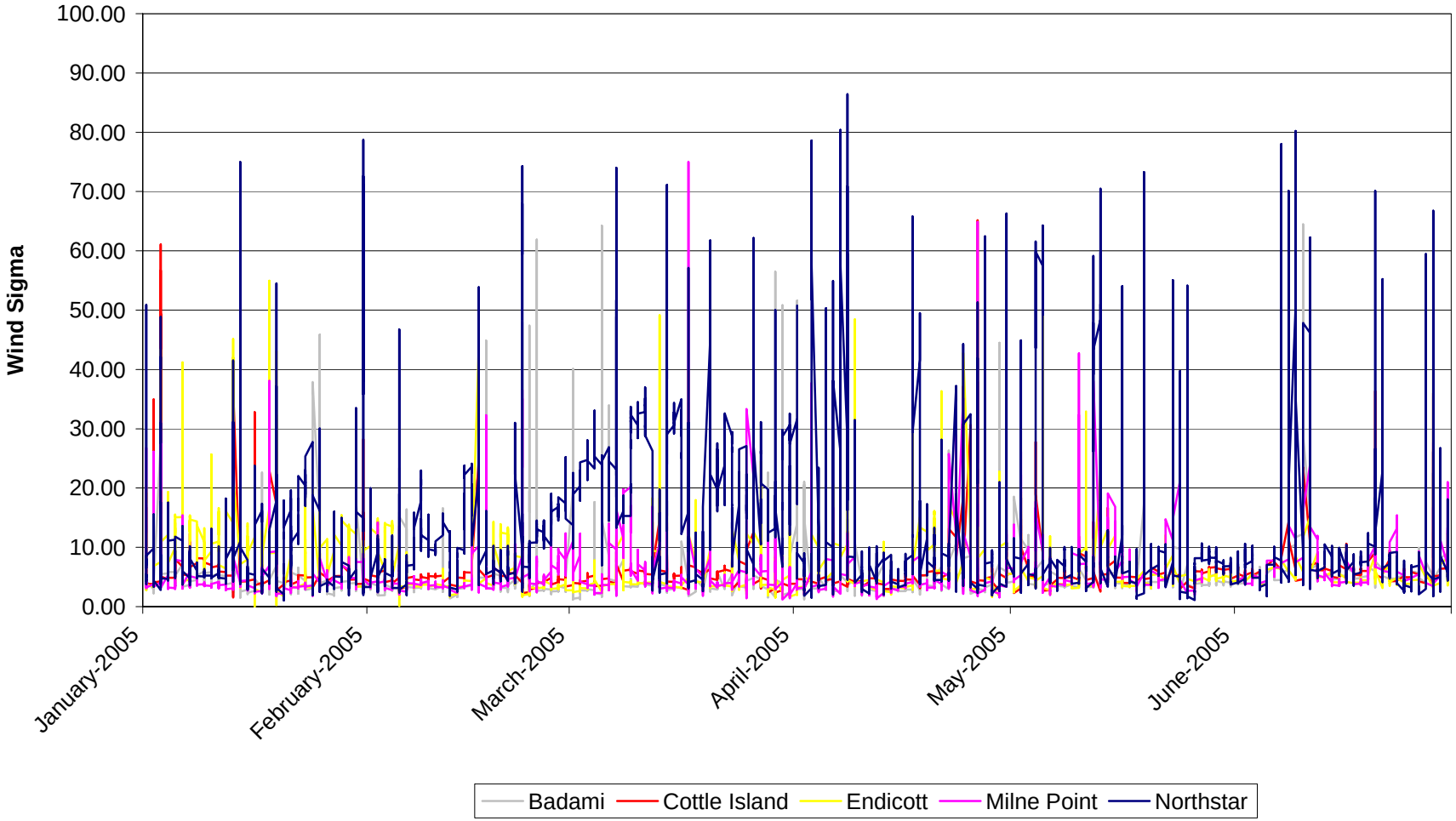
NOTE: Wind Sigma is measured at a height of 10 meters at Badami, Cottle Island, and Endicott, and at 14 meters and 23 meters at Milne Point and Northstar, respectively.

2004 Wind Sigma

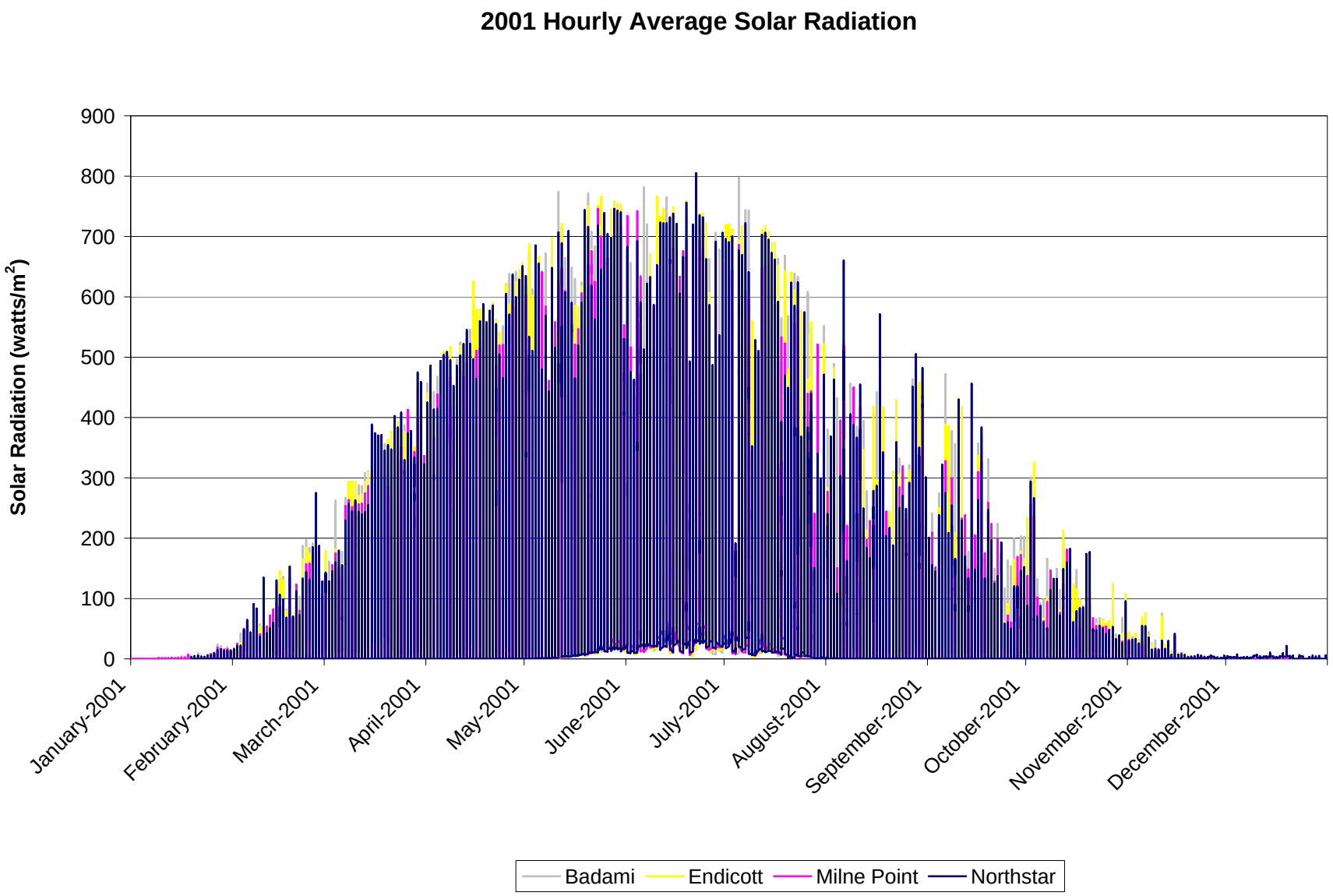


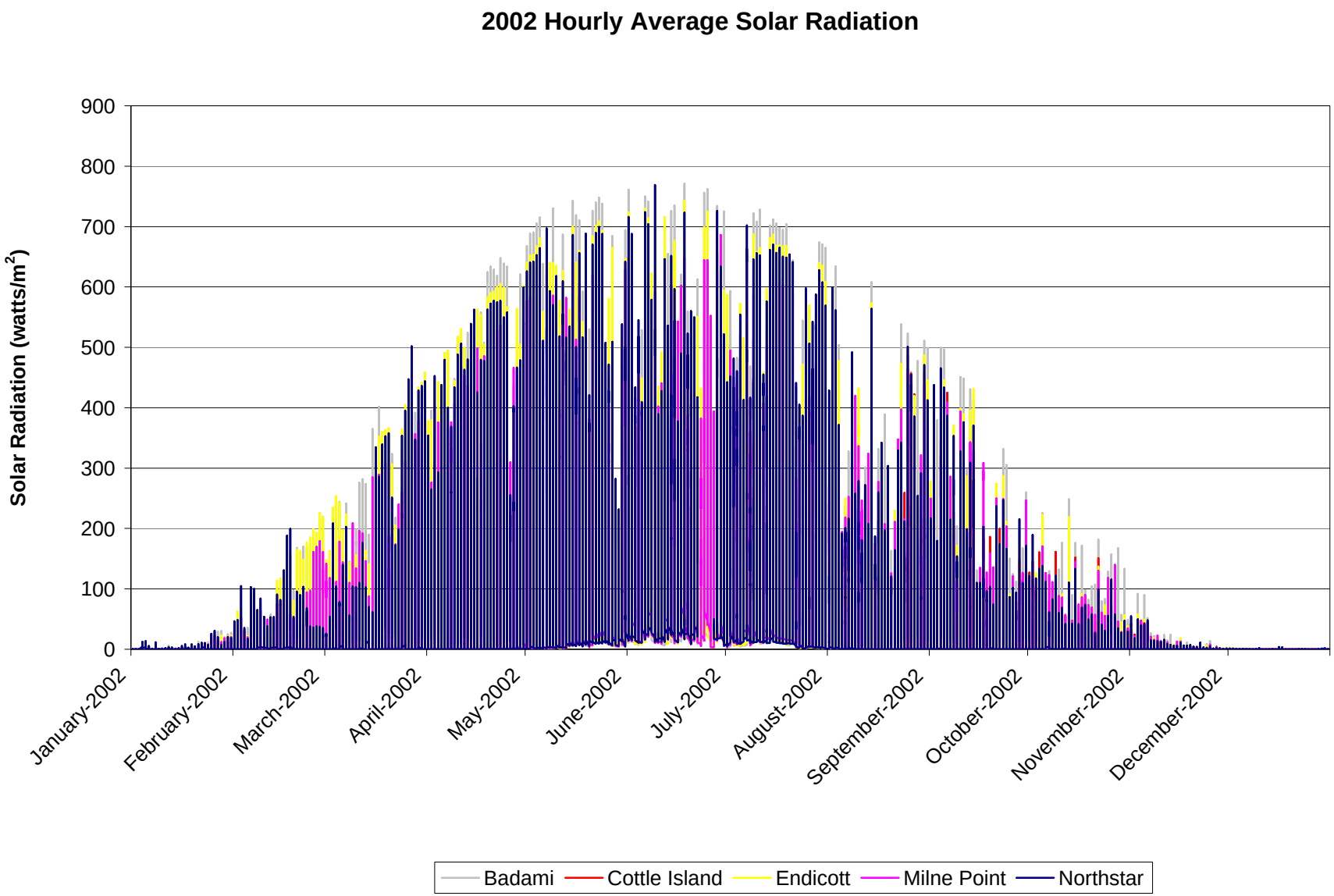
NOTE: Wind Sigma is measured at a height of 10 meters at Badami, Cottle Island, and Endicott, and at 14 meters and 23 meters at Milne Point and Northstar, respectively.

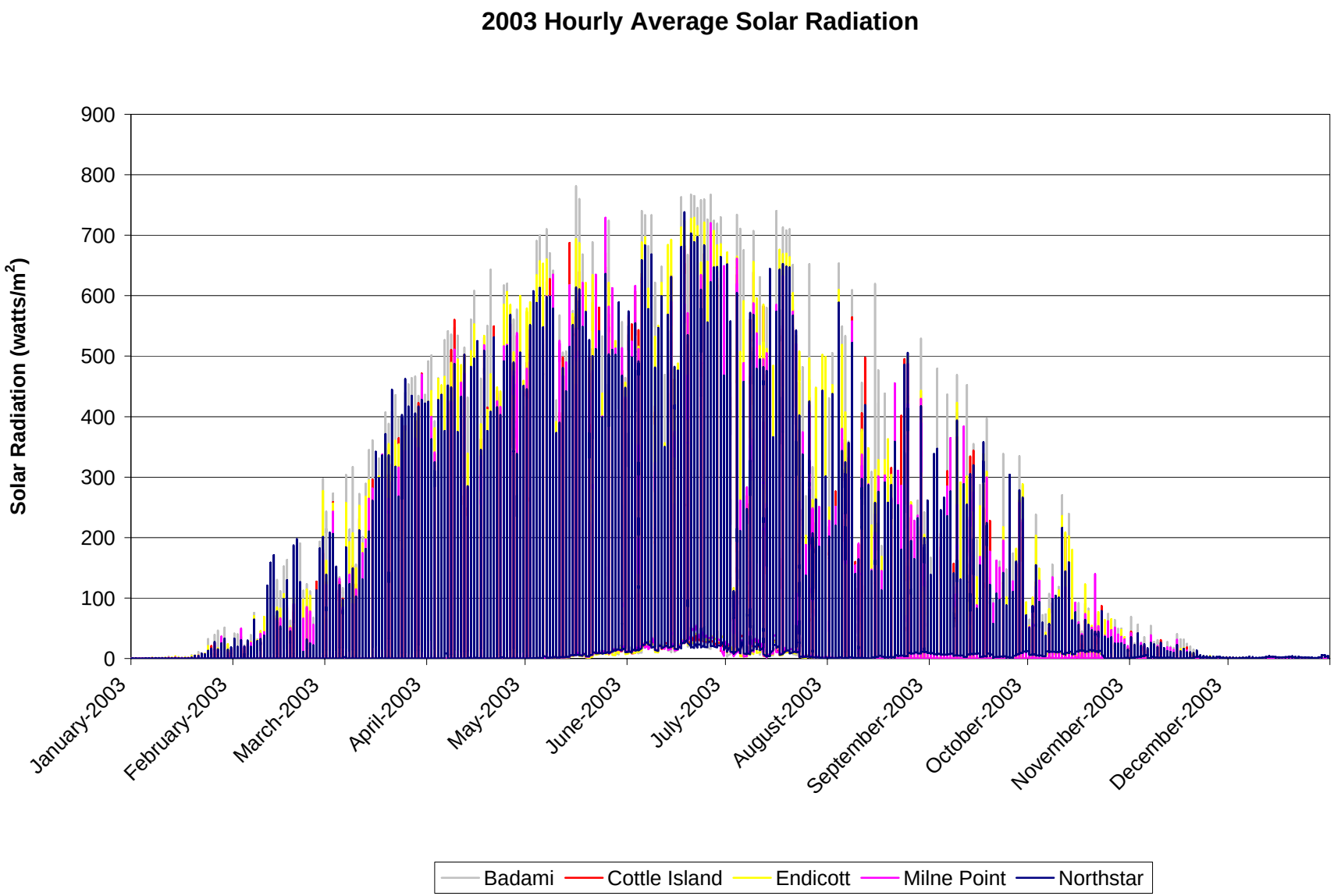
1st Half 2005 Wind Sigma

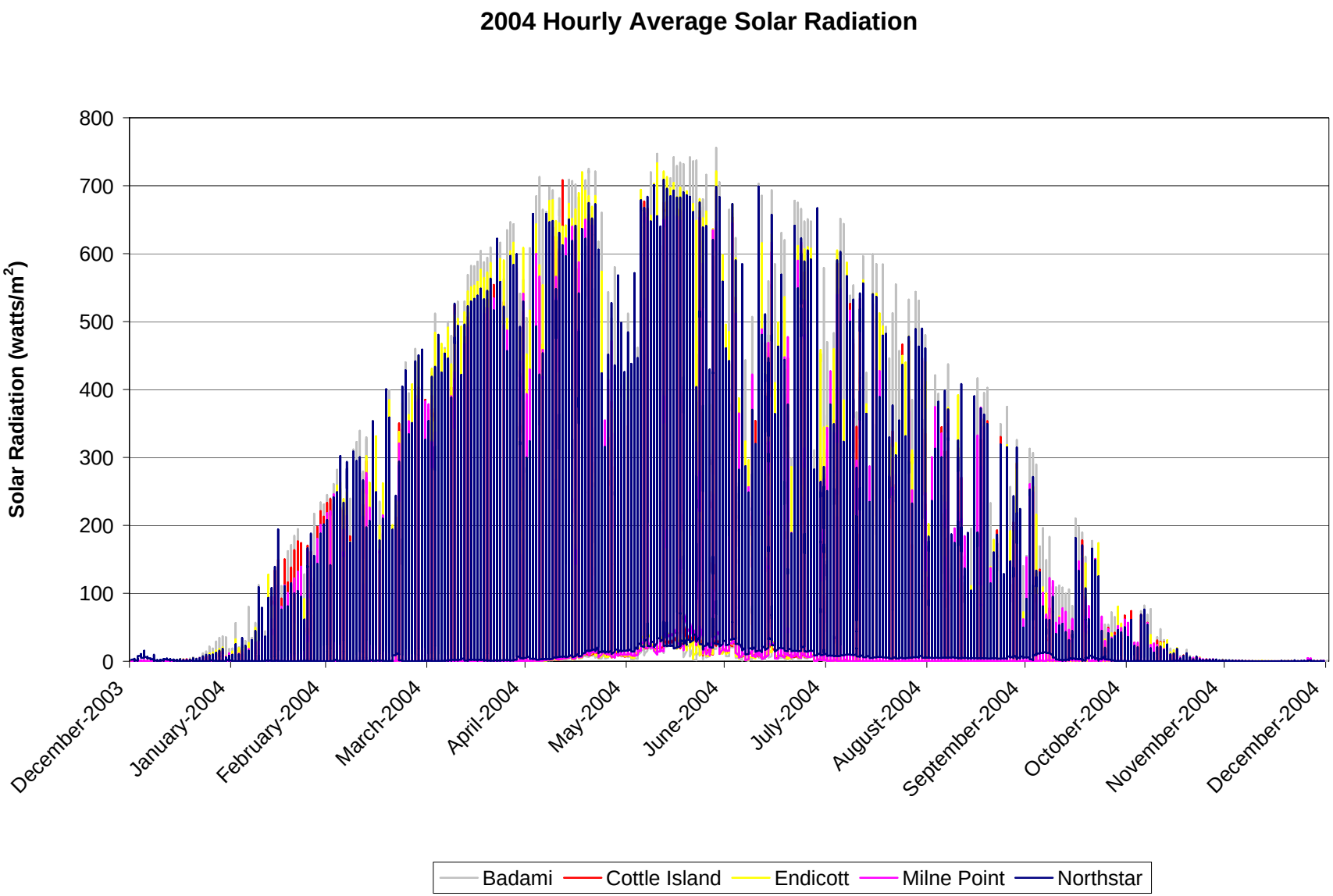


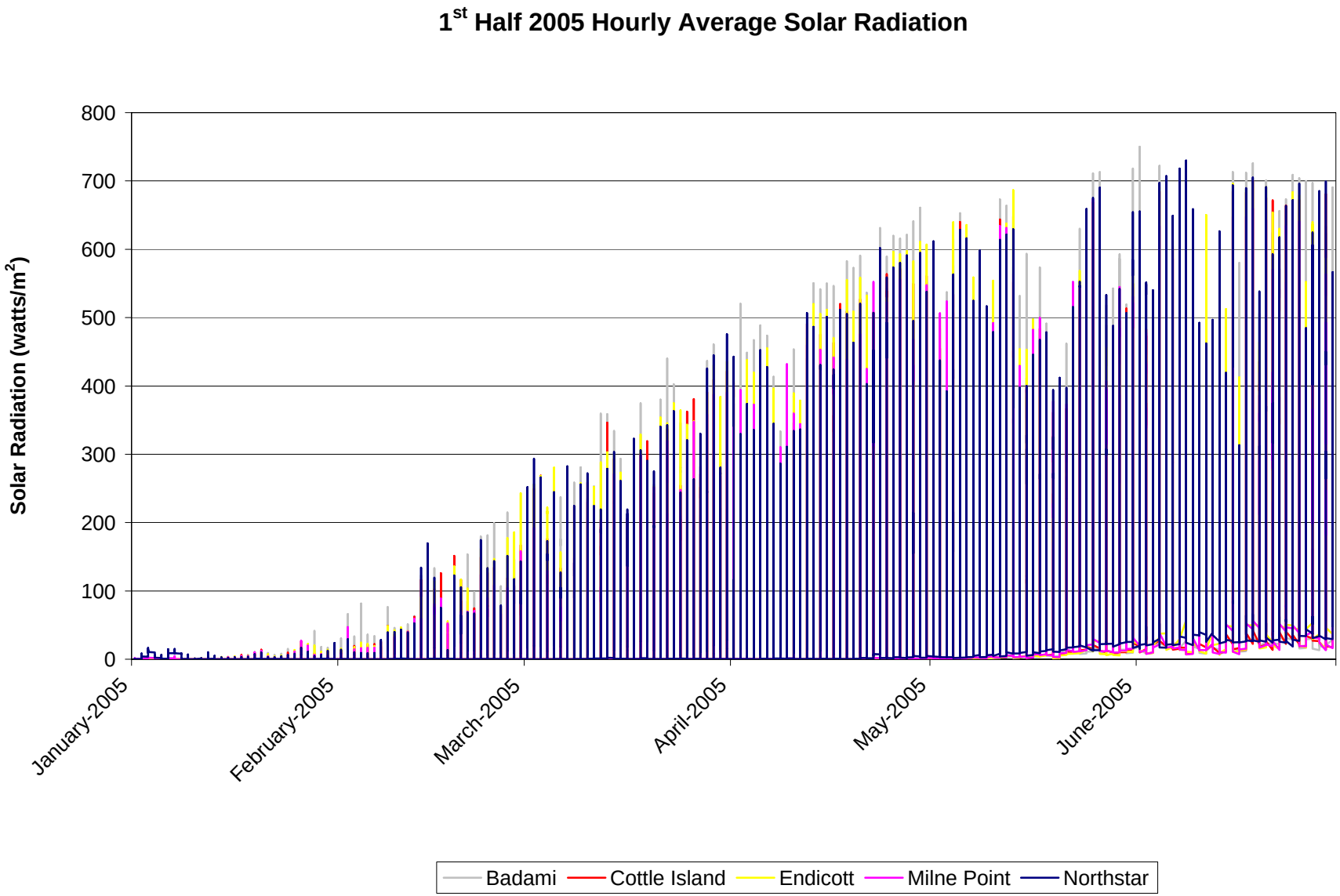
NOTE: Wind Sigma is measured at a height of 10 meters at Badami, Cottle Island, and Endicott, and at 14 meters and 23 meters at Milne Point and Northstar, respectively.


2001 Hourly Average Solar Radiation
Solar Radiation (watts/m2)
900
800
700
600
500
400
300
200
100
0
January-2001
February-2001
March-2001
April-2001
May-2001
June-2001
July-2001
August-2001
September-2001
October-2001
November-2001
December-2001
Badami
Endicott
Milne Point
Northstar


2002 Hourly Average Solar Radiation
Solar Radiation (watts/m2)
900
800
700
600
500
400
300
200
100
0
January-2002
February-2002
March-2002
April-2002
May-2002
June-2002
July-2002
August-2002
September-2002
October-2002
November-2002
December-2002
Badami
Cottle Island
Endicott
Milne Point
Northstar

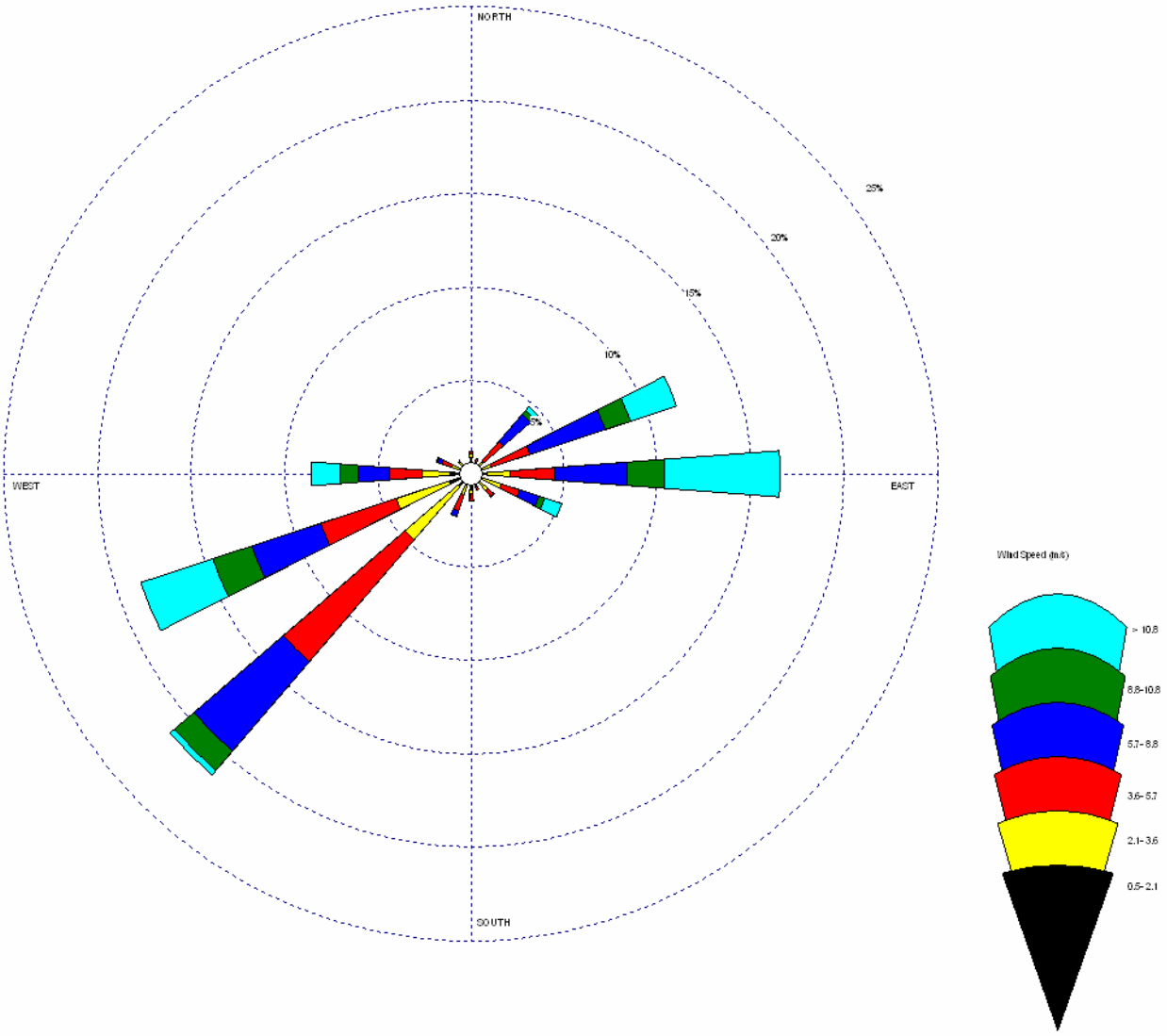

2003 Hourly Average Solar Radiation
Solar Radiation (watts/m2)
900
800
700
600
500
400
300
200
100
0
January-2003
February-2003
March-2003
April-2003
May-2003
June-2003
July-2003
August-2003
September-2003
October-2003
November-2003
December-2003
Badami
Cottle Island
Endicott
Milne Point
Northstar


2004 Hourly Average Solar Radiation
Solar Radiation (watts/m2)
800
700
600
500
400
300
200
100
0
December-2003
January-2004
February-2004
March-2004
April-2004
May-2004
June-2004
July-2004
August-2004
September-2004
October-2004
November-2004
December-2004
Badami
Cottle Island
Endicott
Milne Point
Northstar

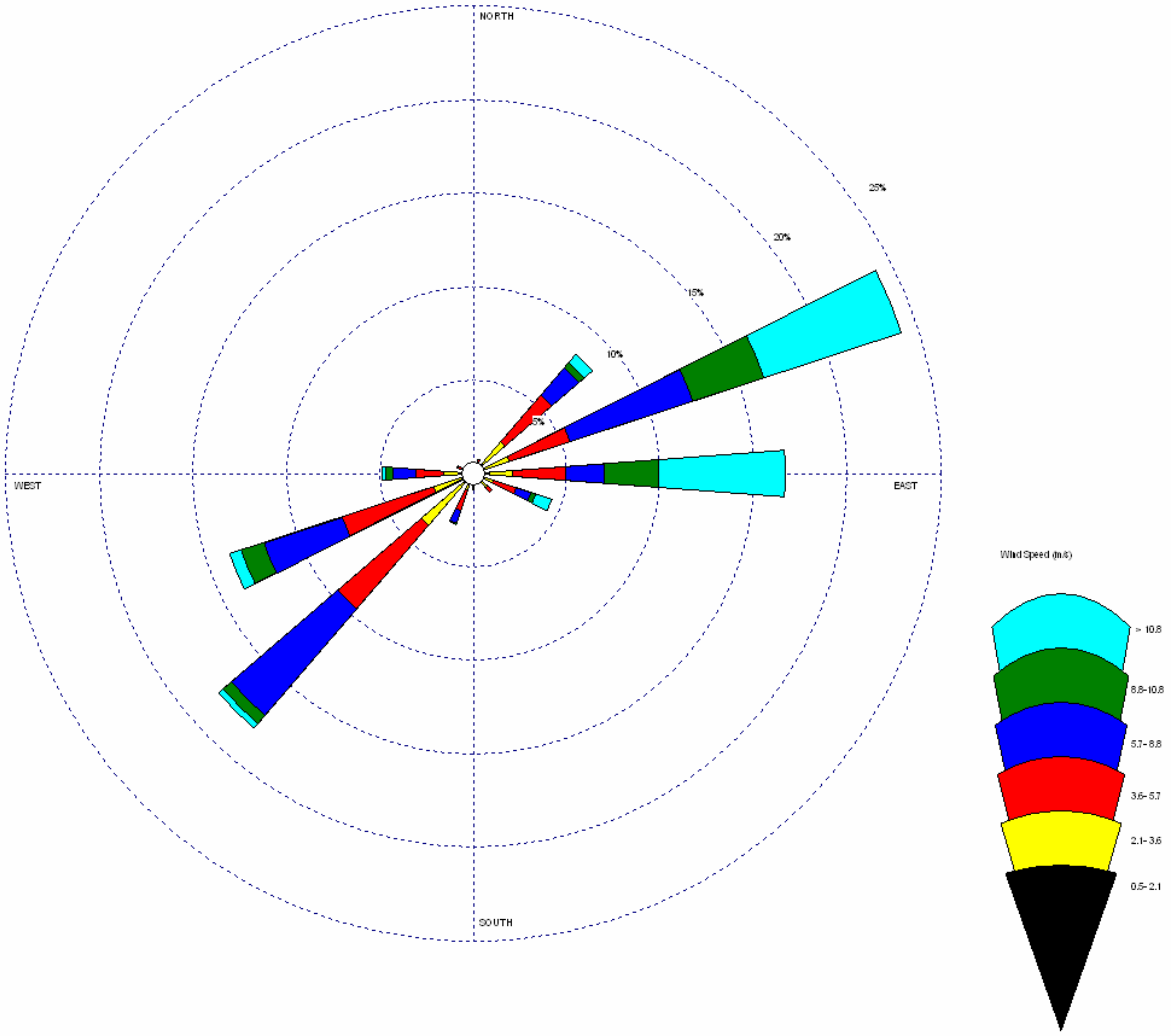

1st Half 2005 Hourly Average Solar Radiation
Solar Radiation (watts/m2)
800
700
600
500
400
300
200
100
0
January-2005
February-2005
March-2005
April-2005
May-2005
June-2005
Badami
Cottle Island
Endicott
Milne Point
Northstar

APPENDIX C

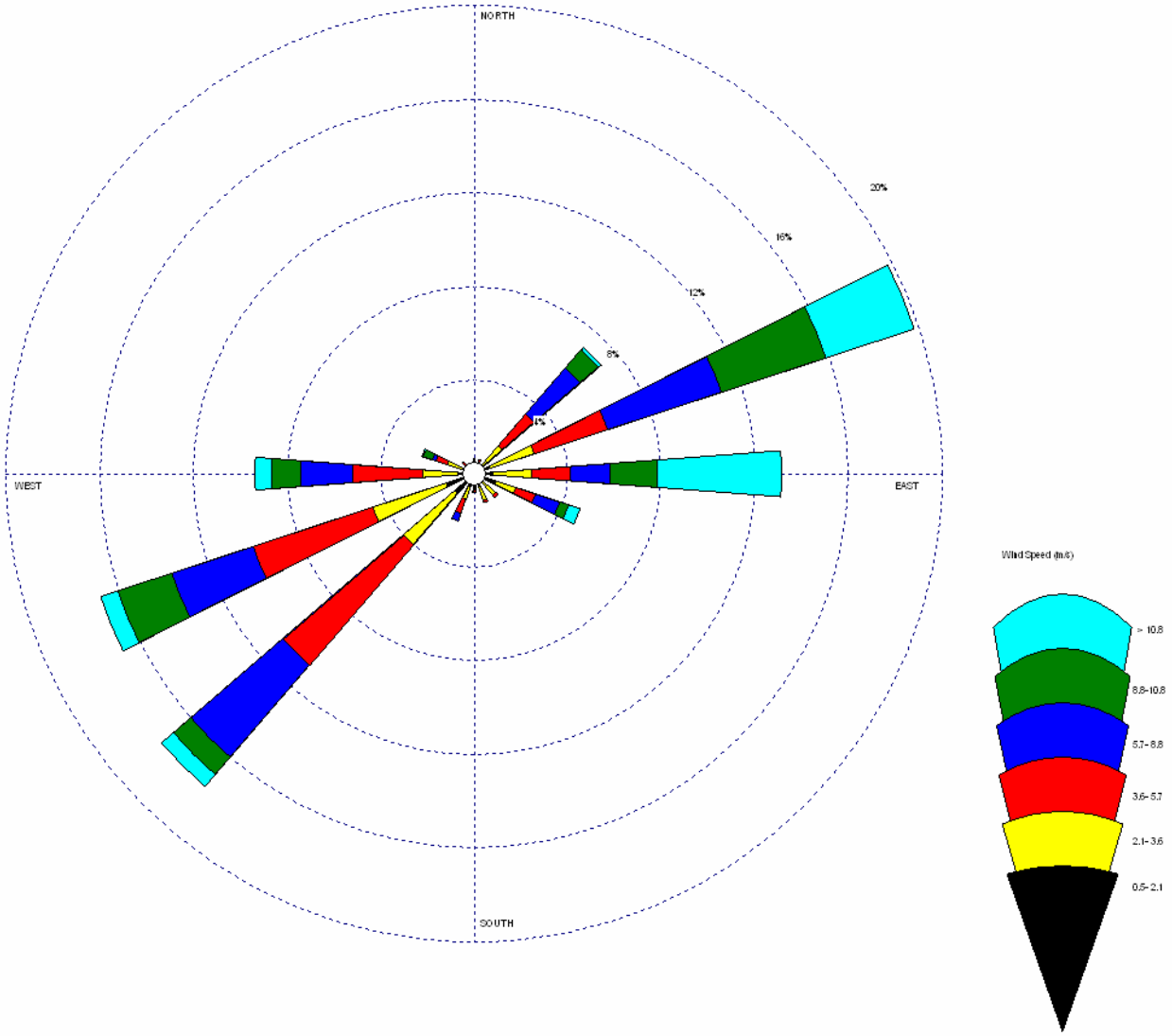
Composite Monthly Wind Roses



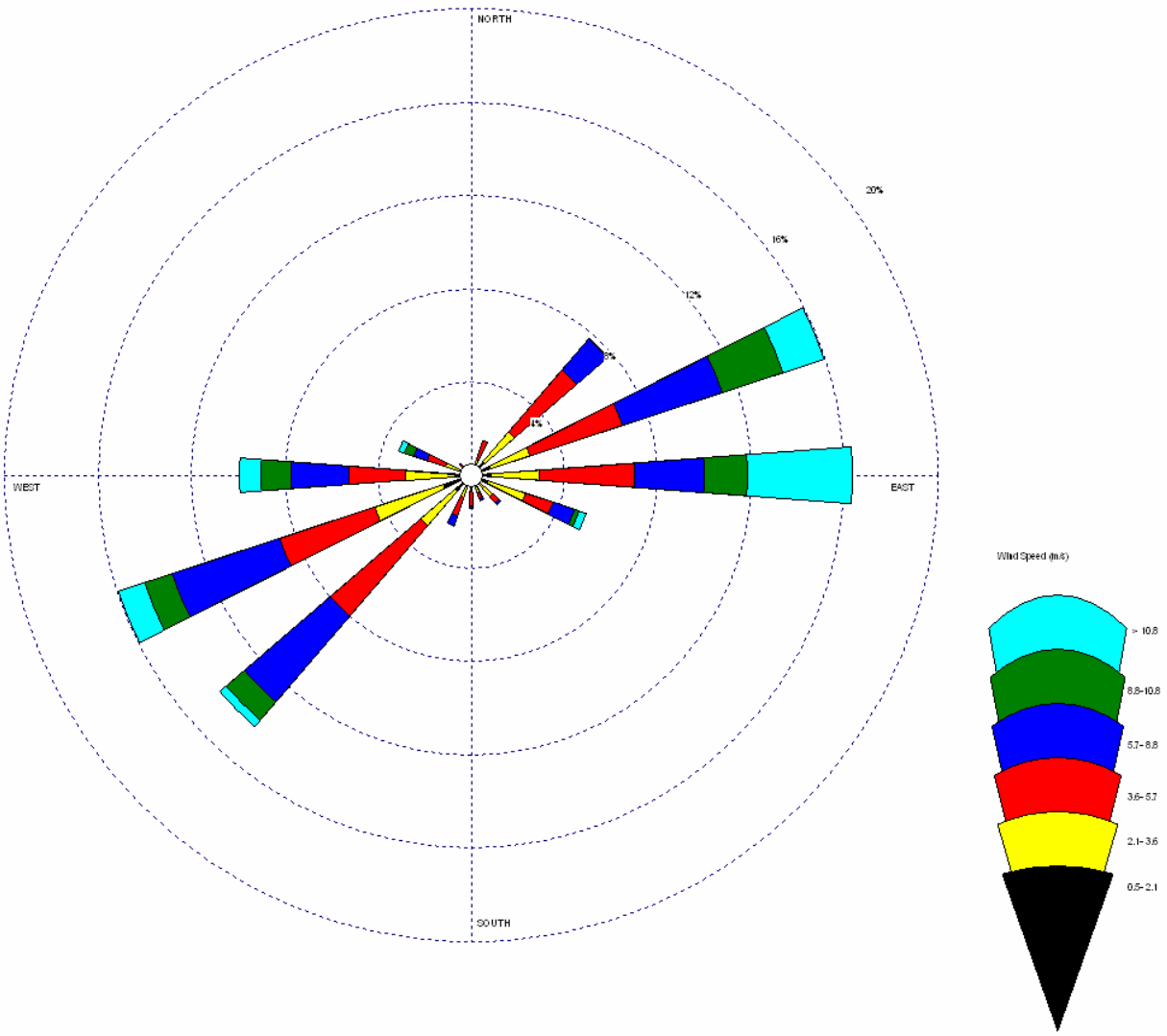
Site	Badami
Date	Composite of all January data 2001-2005
Company	MMS
Unit	M/S



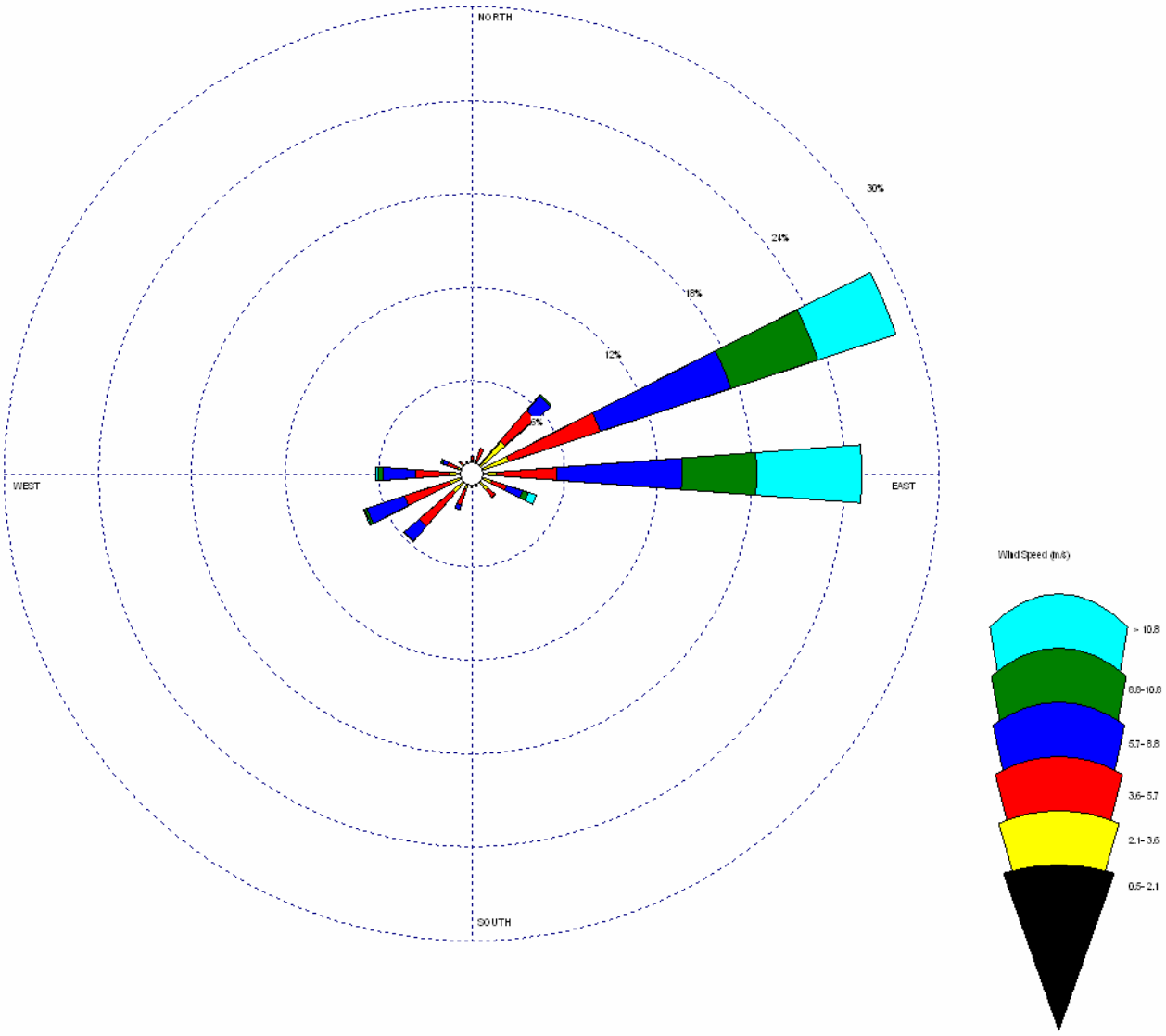
Site	Badami
Date	Composite of all February data 2001-2005
Company	MMS
Unit	M/S



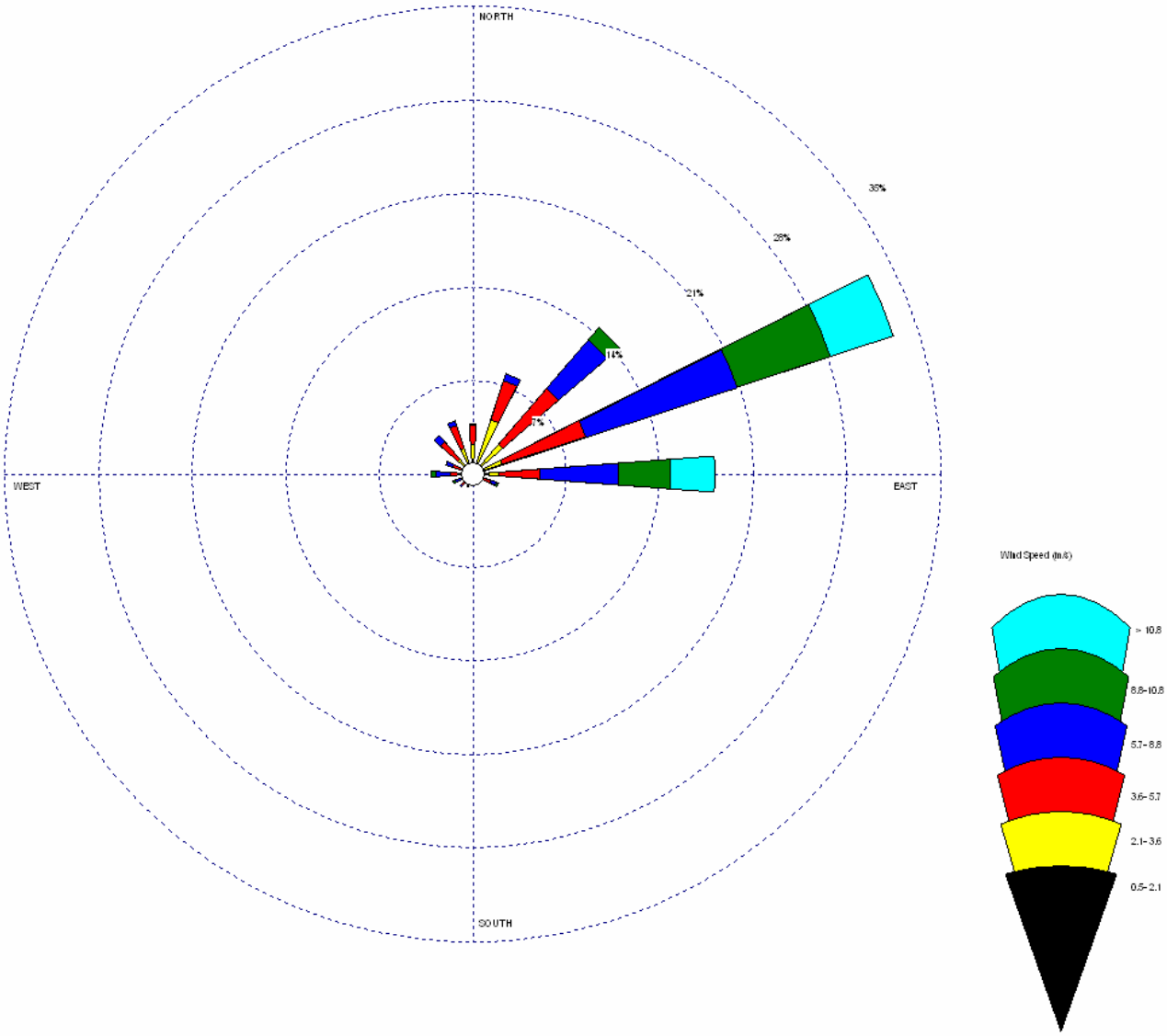
Site	Badami
Date	Composite of all March data 2001-2005
Company	MMS
Unit	M/S



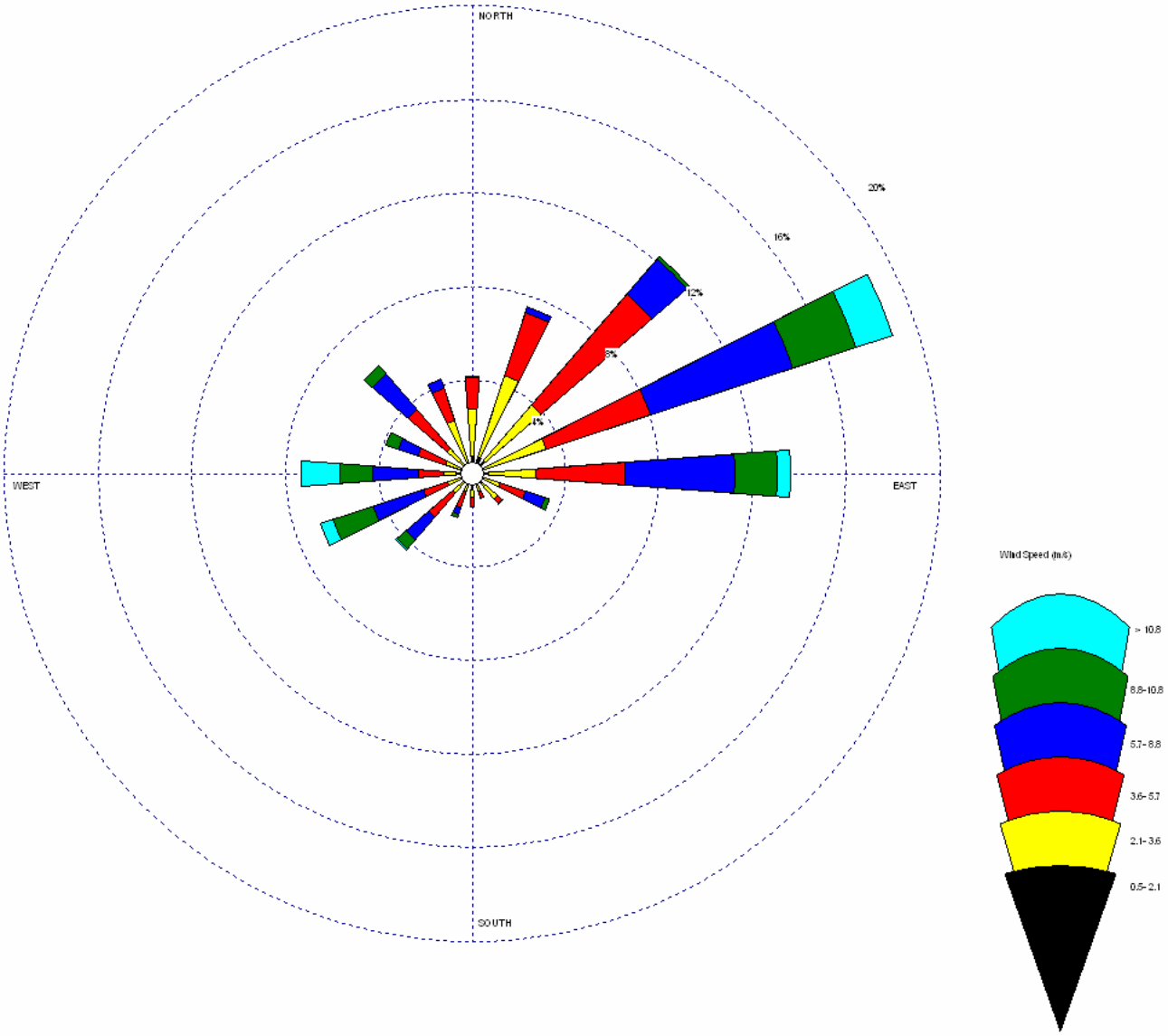
Site	Badami
Date	Composite of all April data 2001-2005
Company	MMS
Unit	M/S



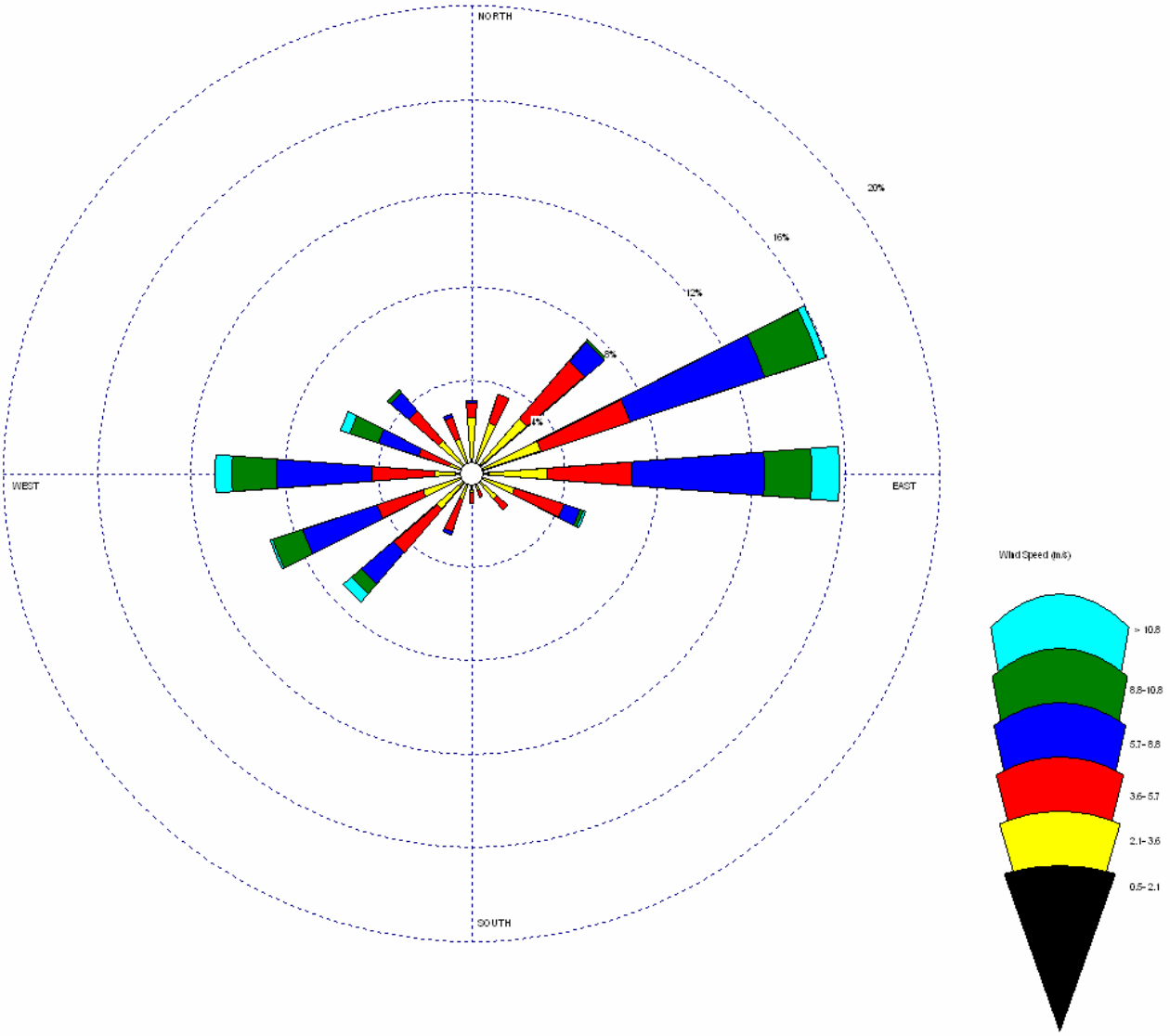
Site	Badami
Date	Composite of all May data 2001-2005
Company	MMS
Unit	M/S



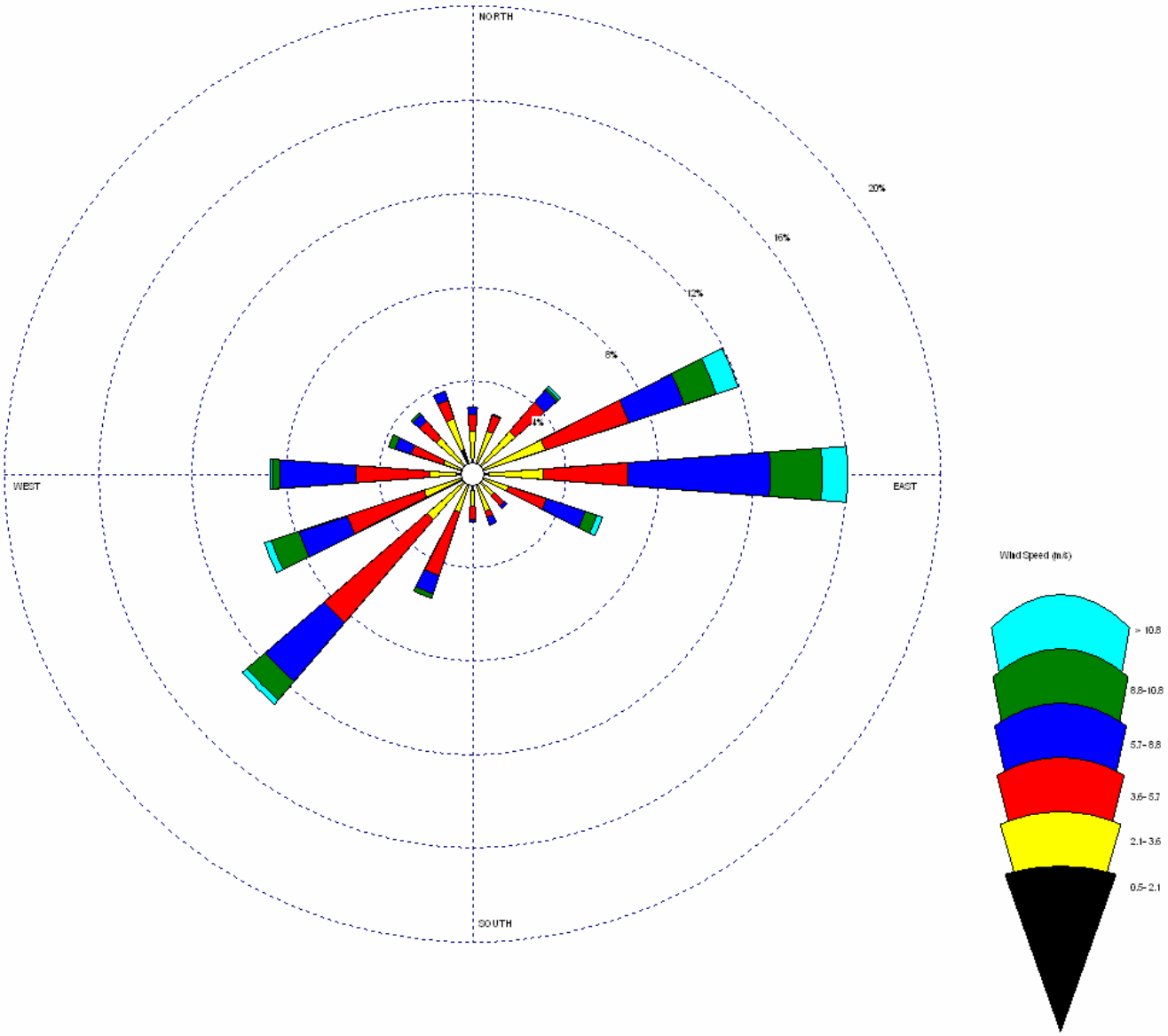
Site	Badami
Date	Composite of all June data 2001-2005
Company	MMS
Unit	M/S



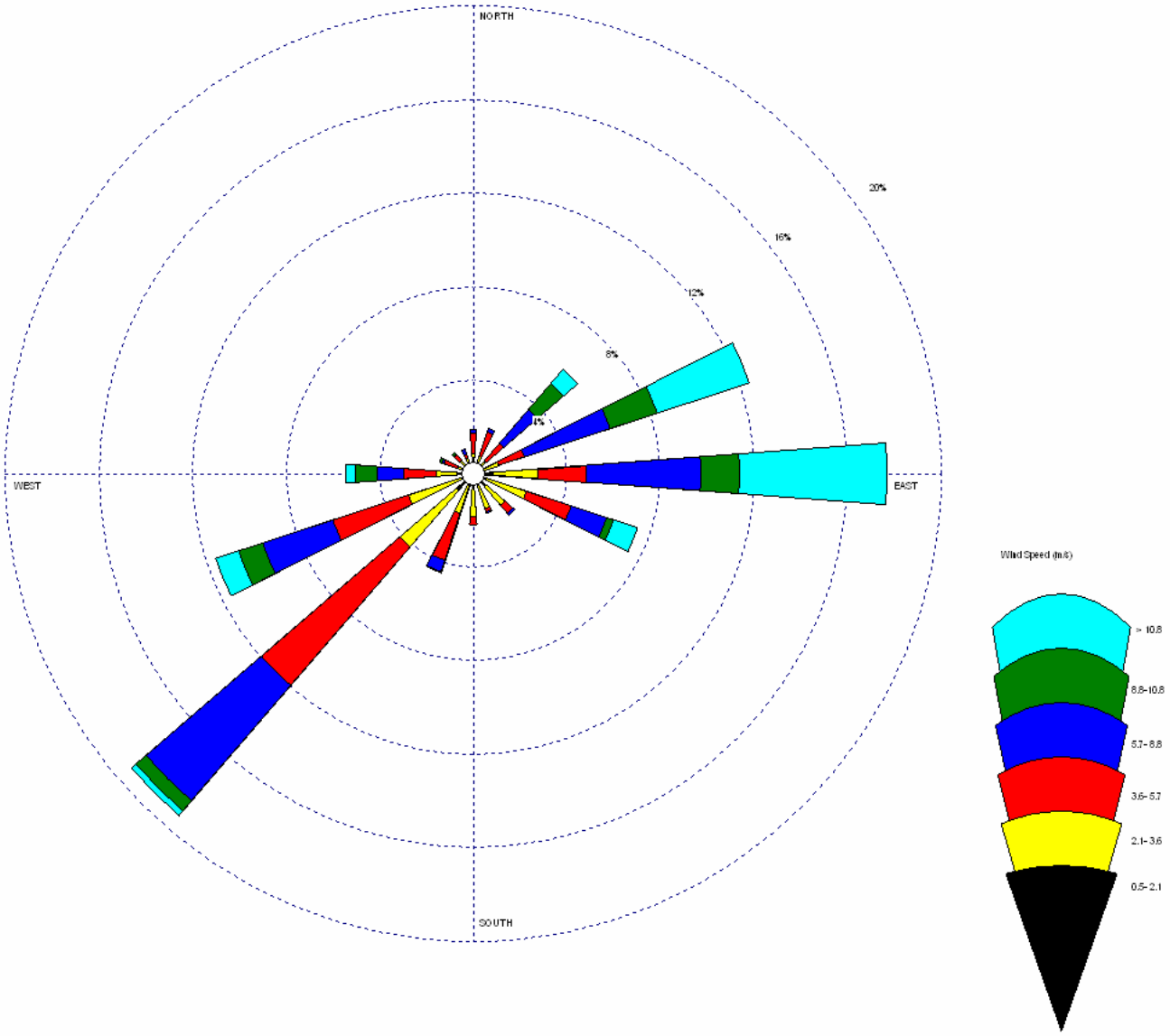
Site	Badami
Date	Composite of all July data 2001-2004
Company	MMS
Unit	M/S



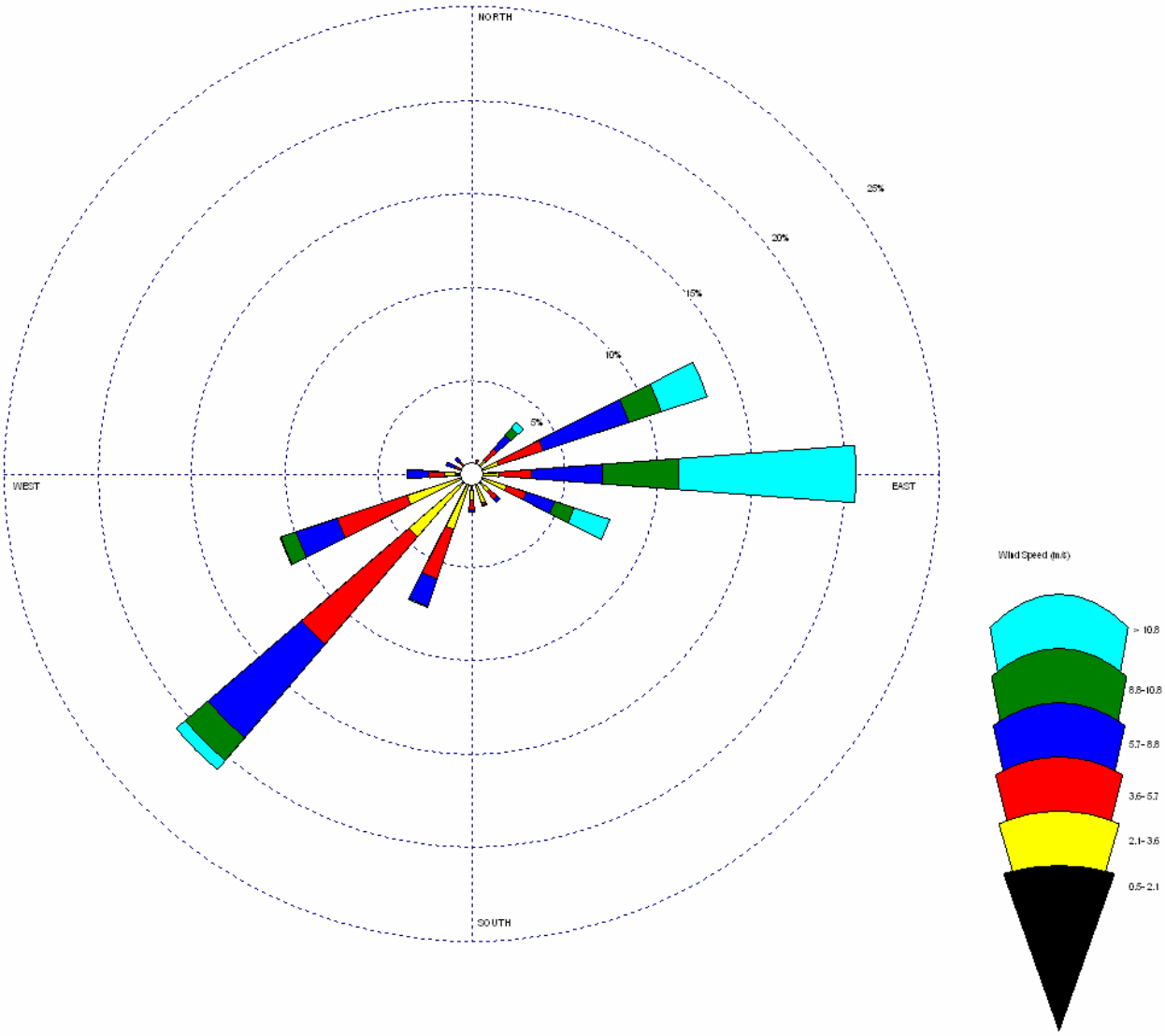
Site	Badami
Date	Composite of all August data 2001-2004
Company	MMS
Unit	M/S



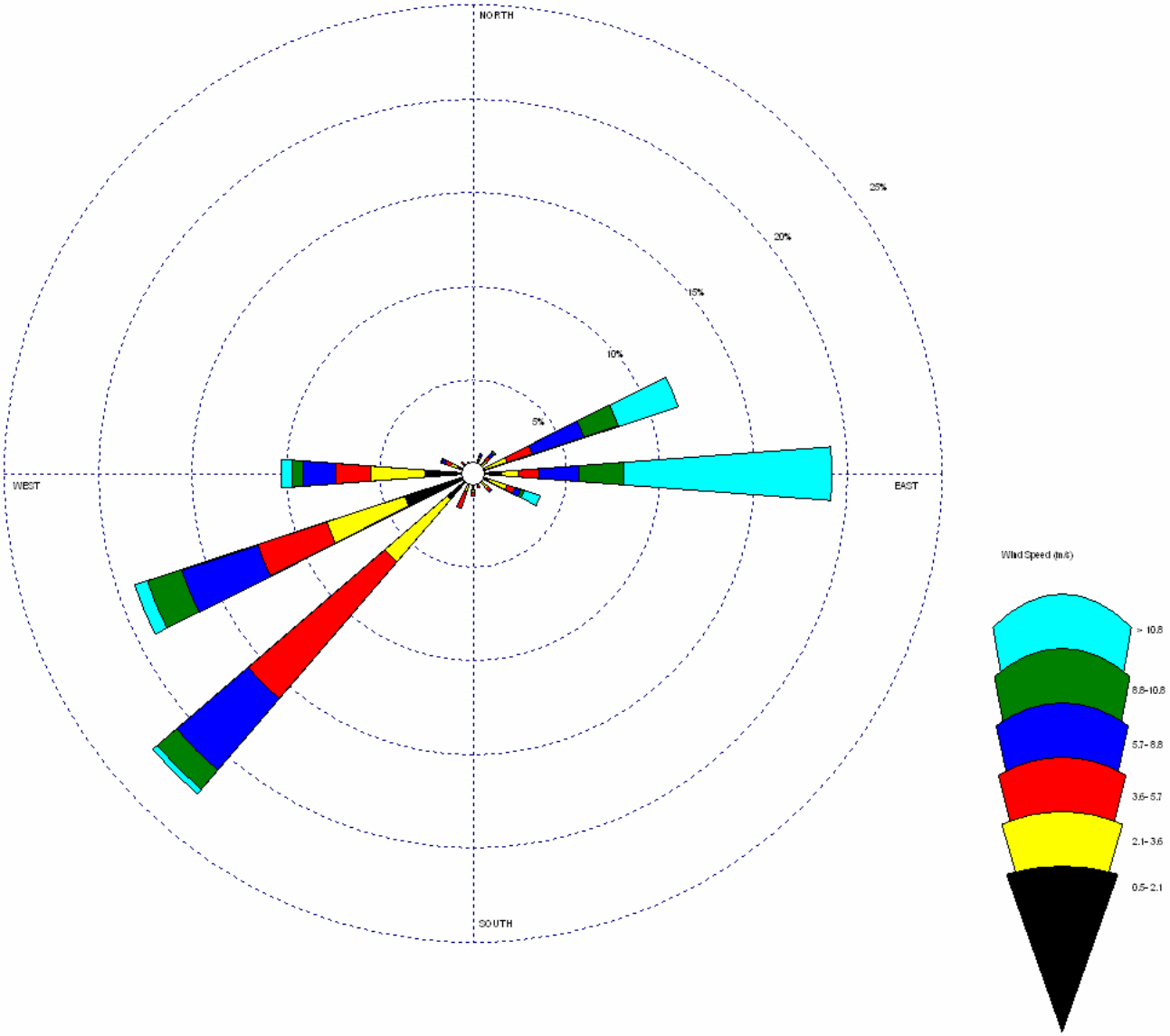
Site	Badami
Date	Composite of all September data 2001-2004
Company	MMS
Unit	M/S



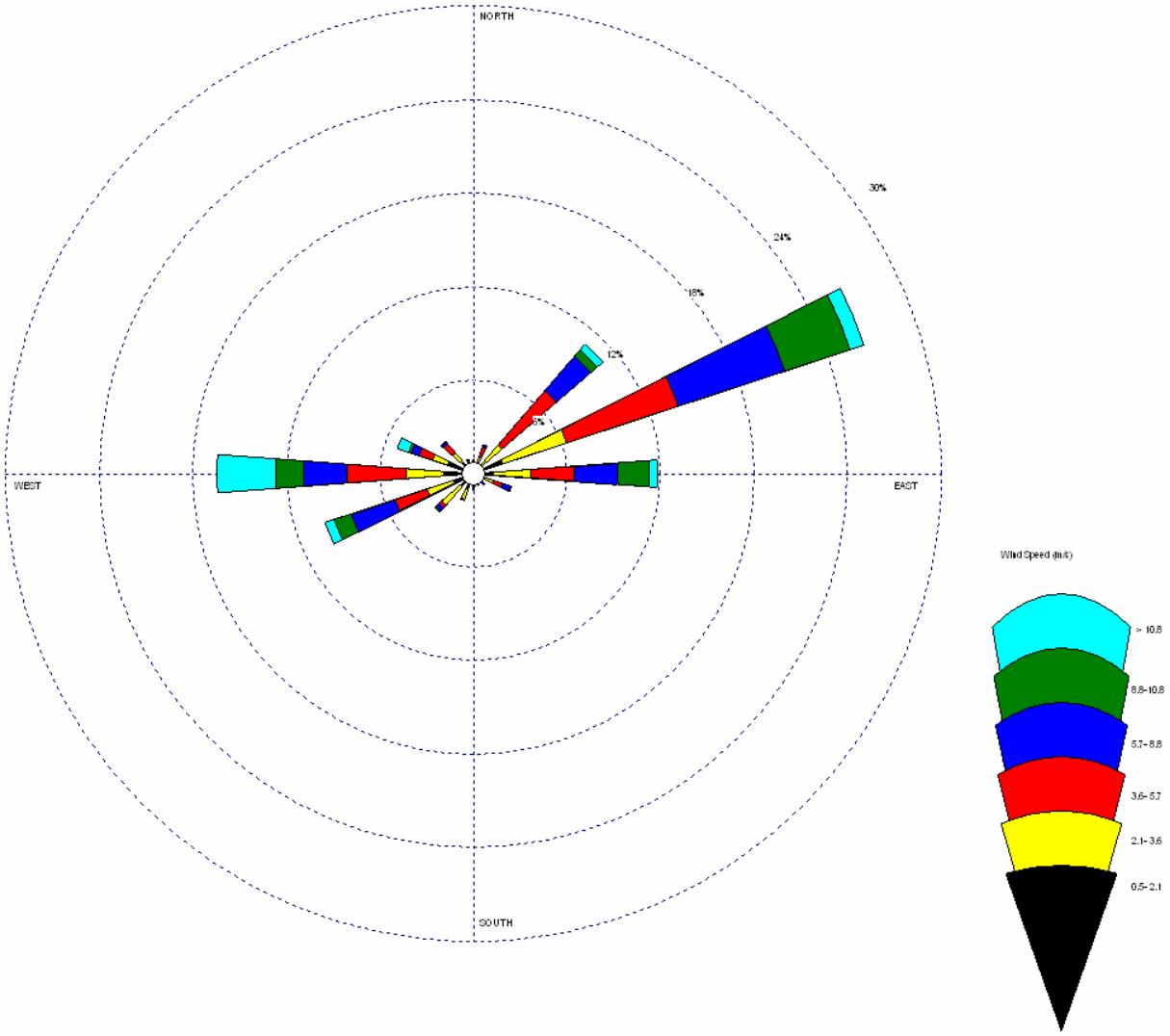
Site	Badami
Date	Composite of all October data 2001-2004
Company	MMS
Unit	M/S



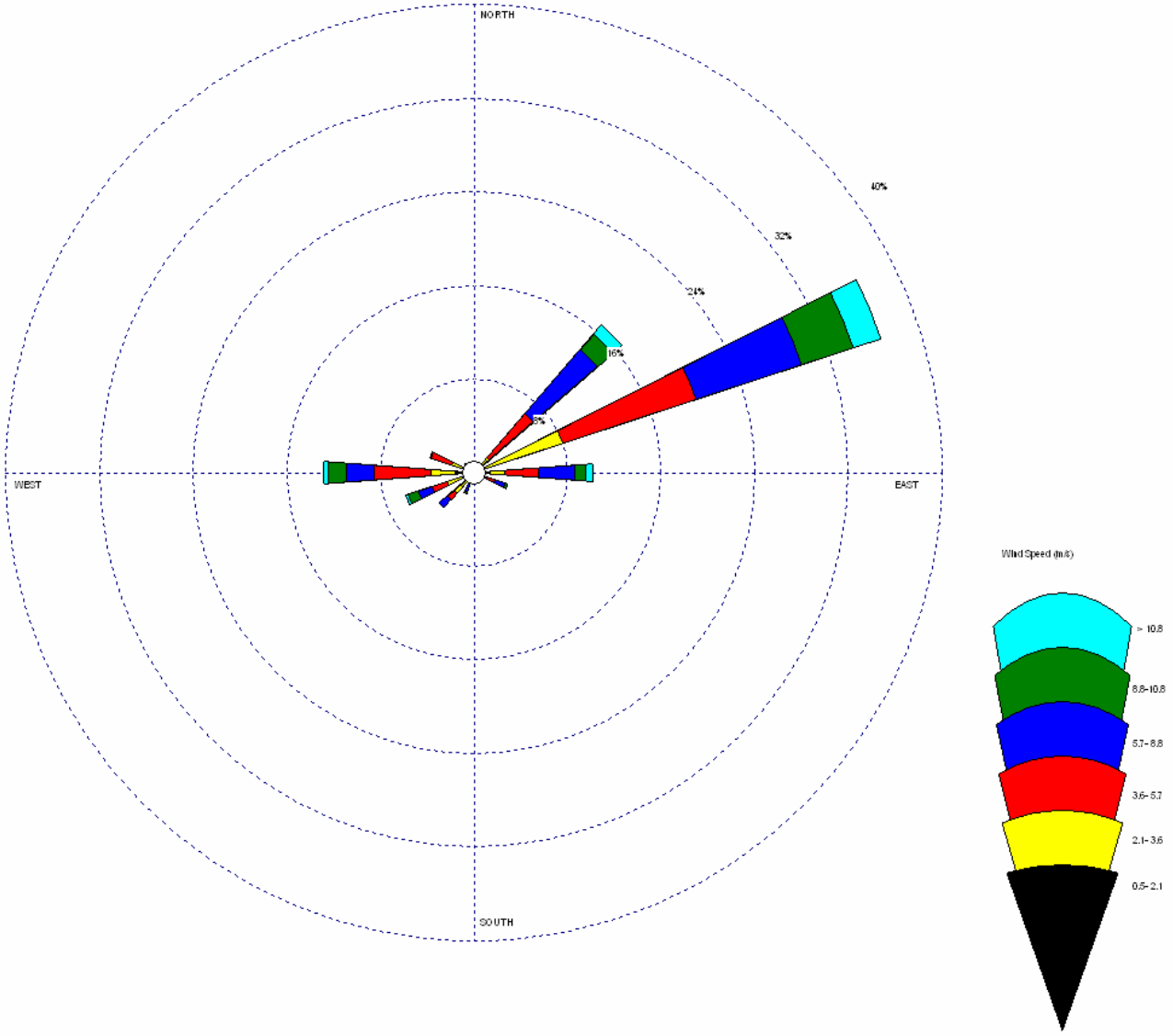
Site	Badami
Date	Composite of all November data 2001-2004
Company	MMS
Unit	M/S



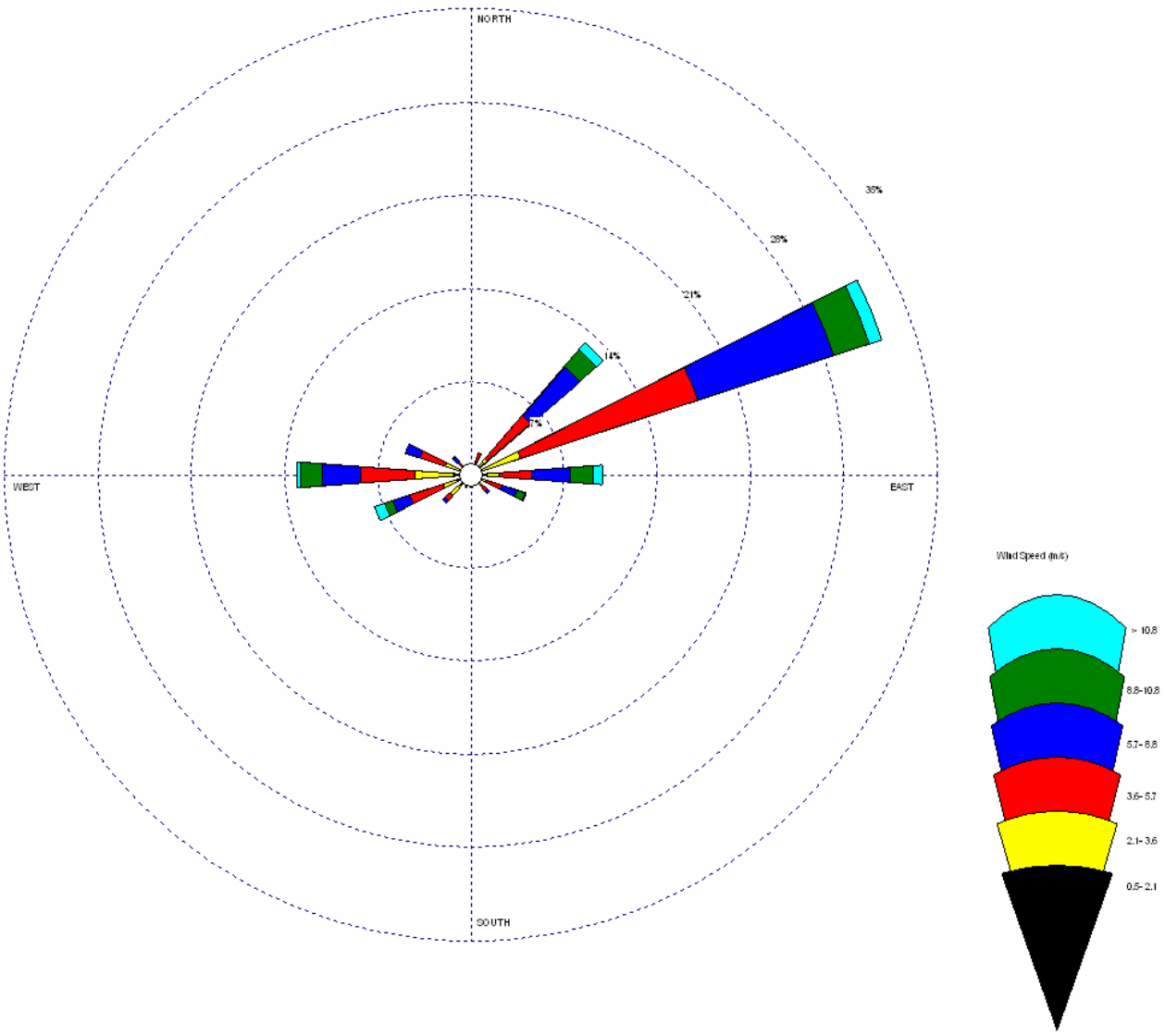
Site	Badami
Date	Composite of all December data 2001-2004
Company	MMS
Unit	M/S



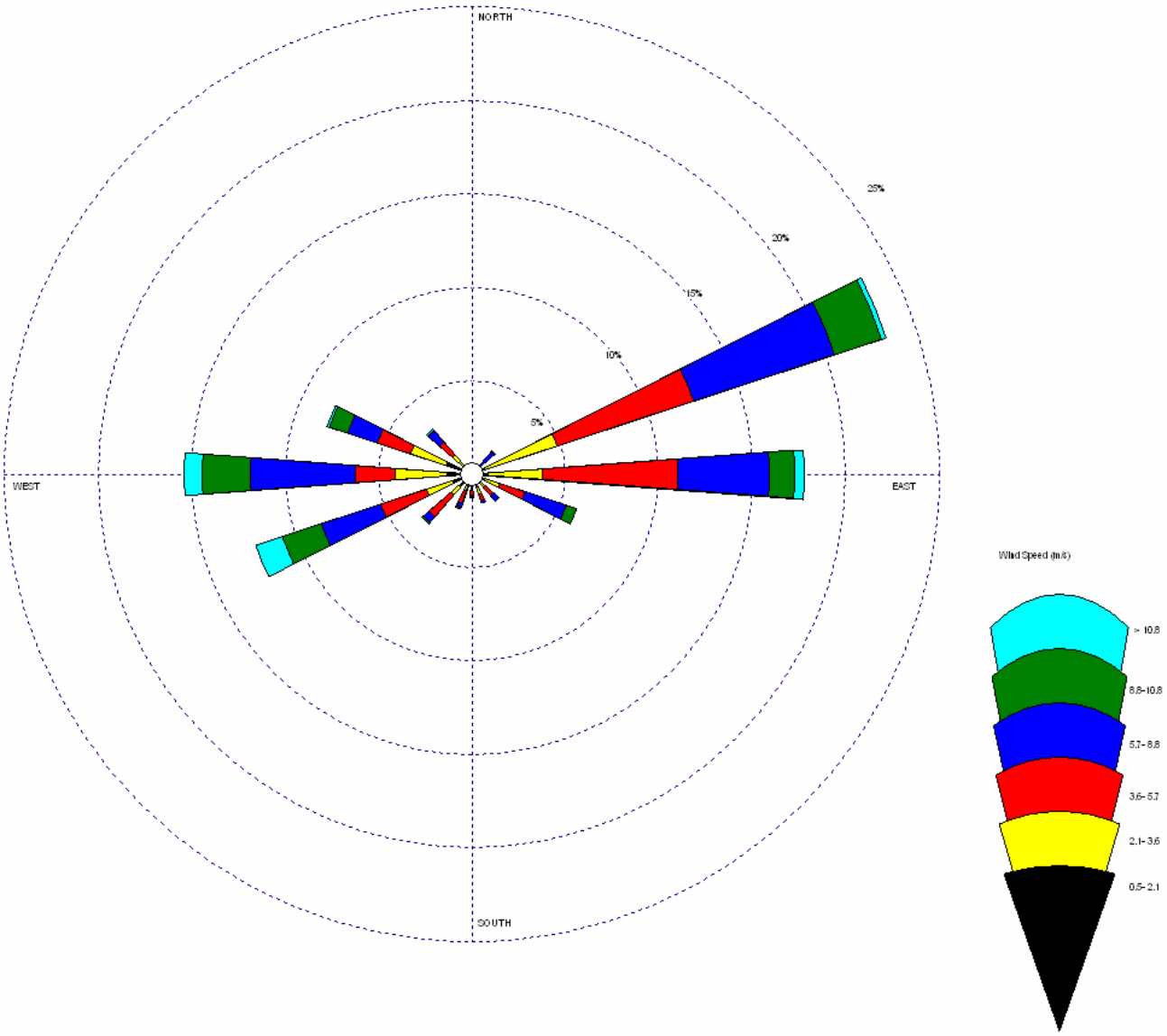
Site	Northstar
Date	Composite of all January data 2001-2005
Company	MMS
Unit	M/S



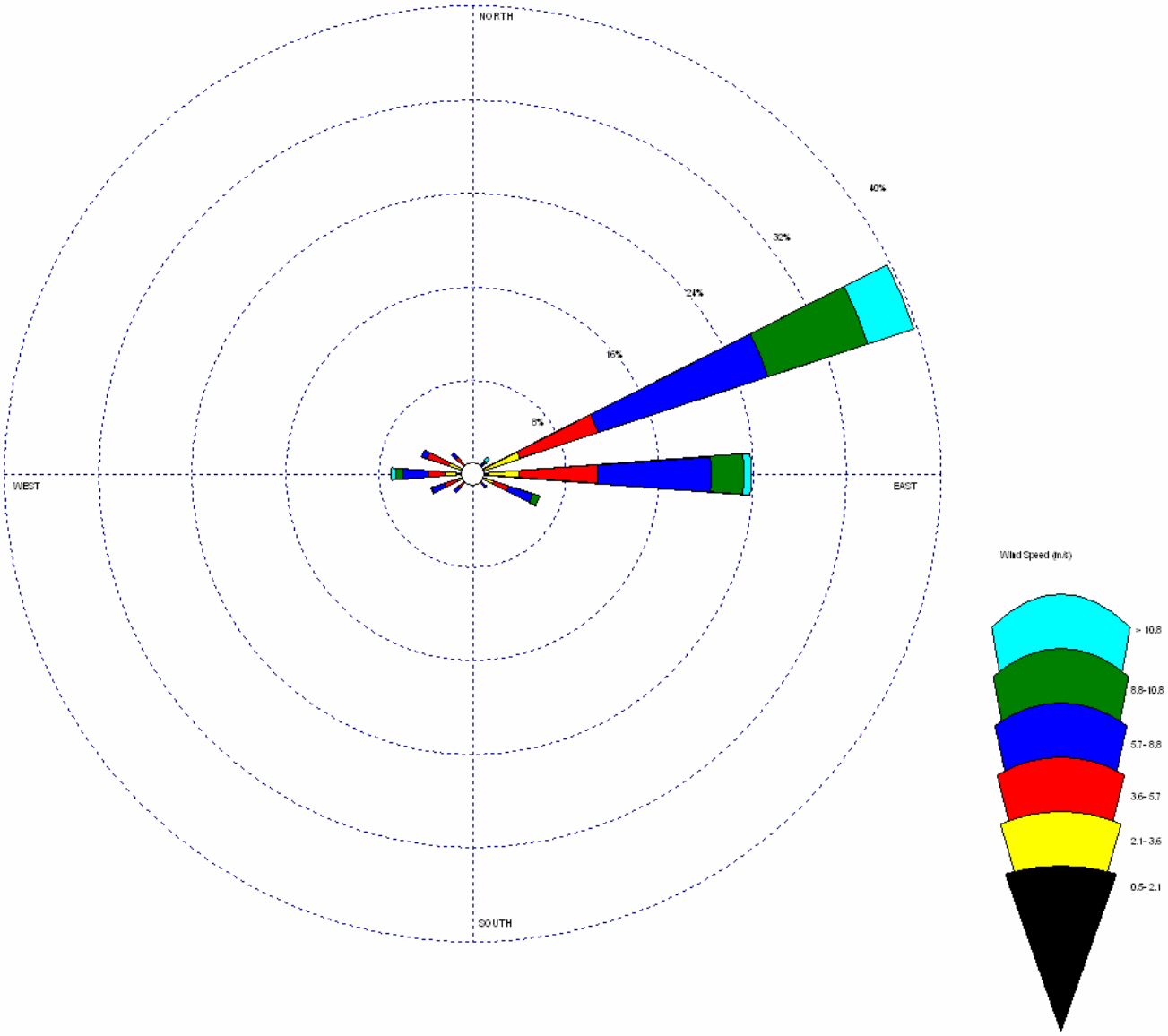
Site	Northstar
Date	Composite of all February data 2001-2005
Company	MMS
Unit	M/S



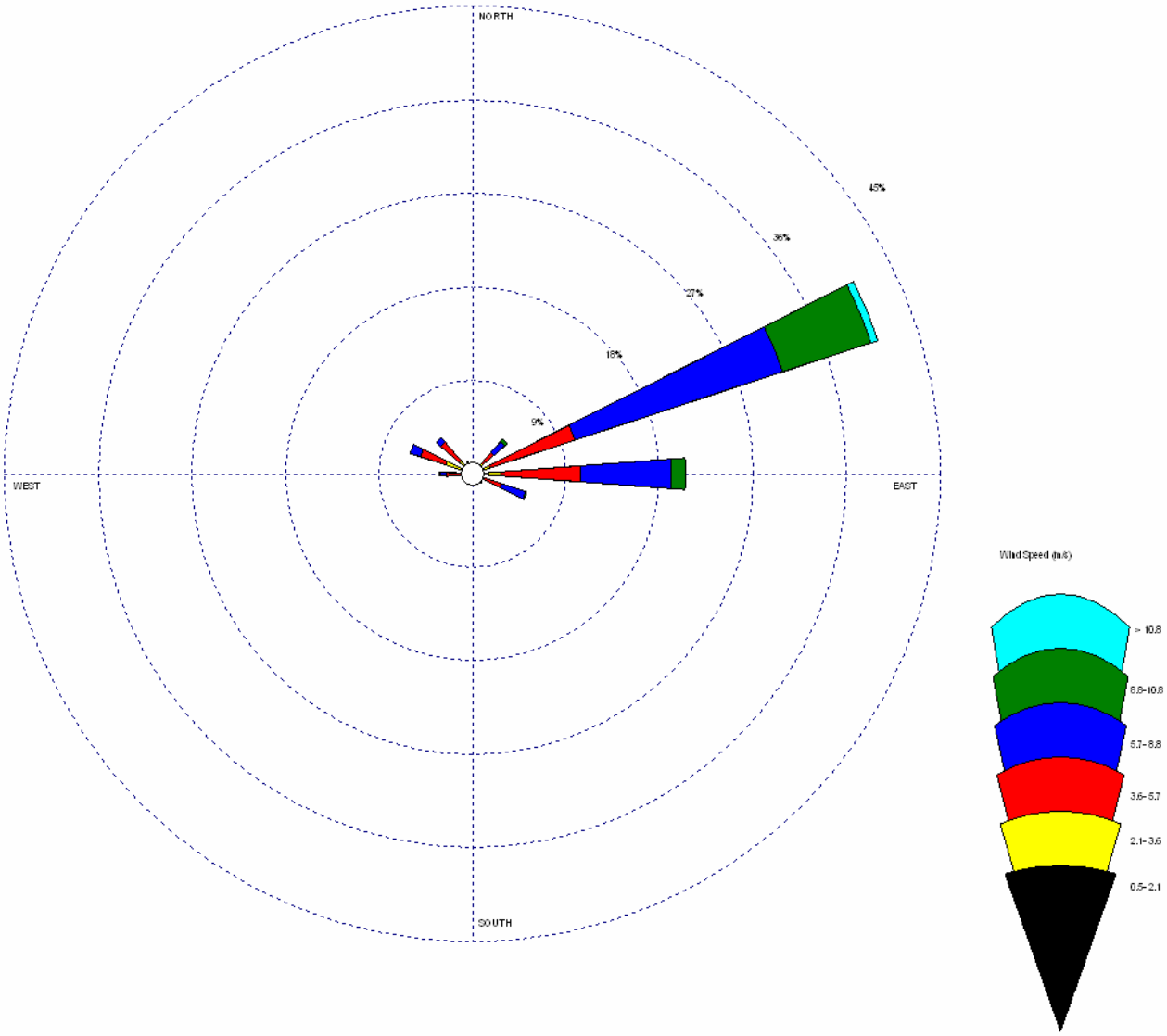
Site	Northstar
Date	Composite of all March data 2001-2005
Company	MMS
Unit	M/S



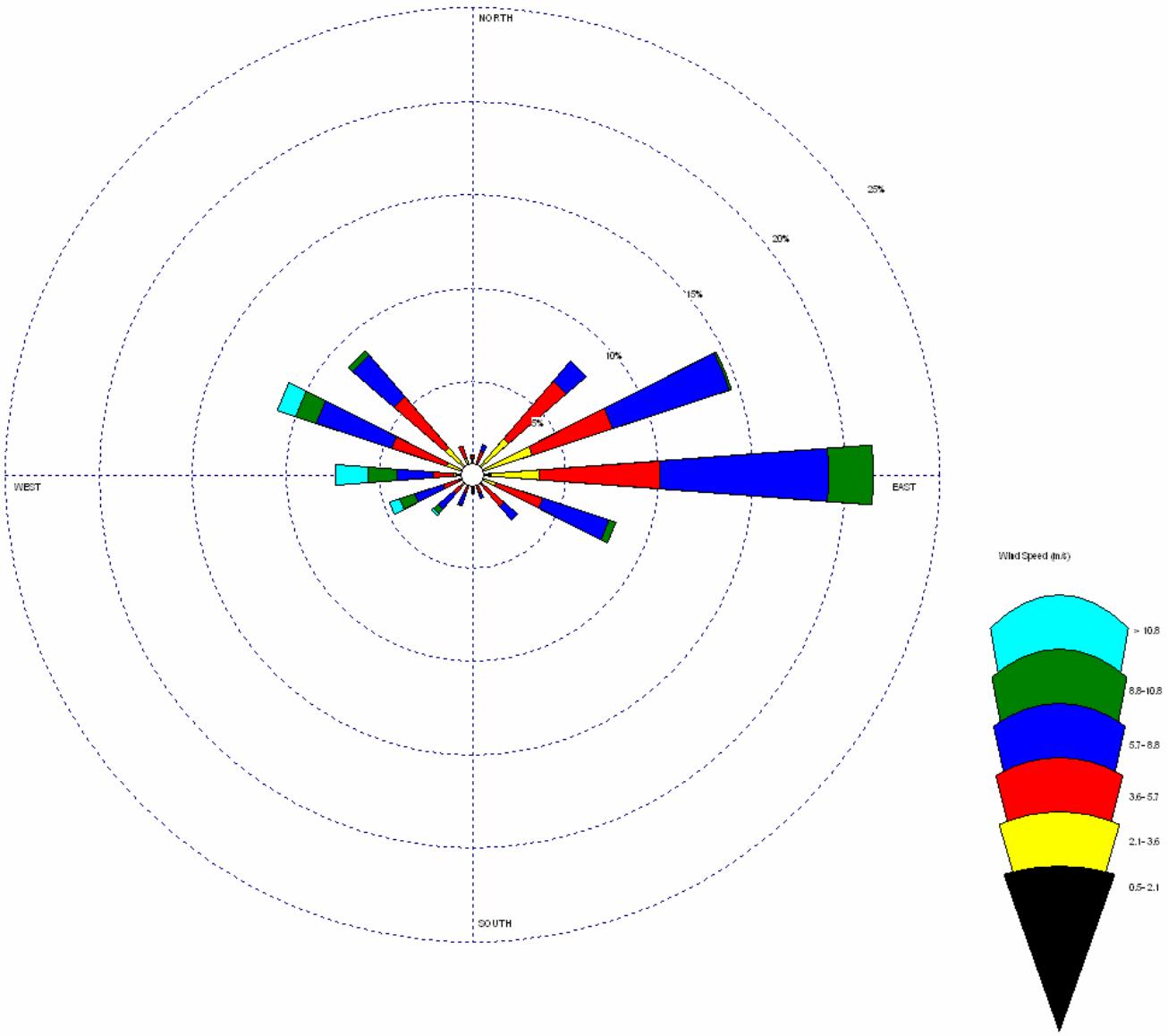
Site	Northstar
Date	Composite of all April data 2001-2005
Company	MMS
Unit	M/S



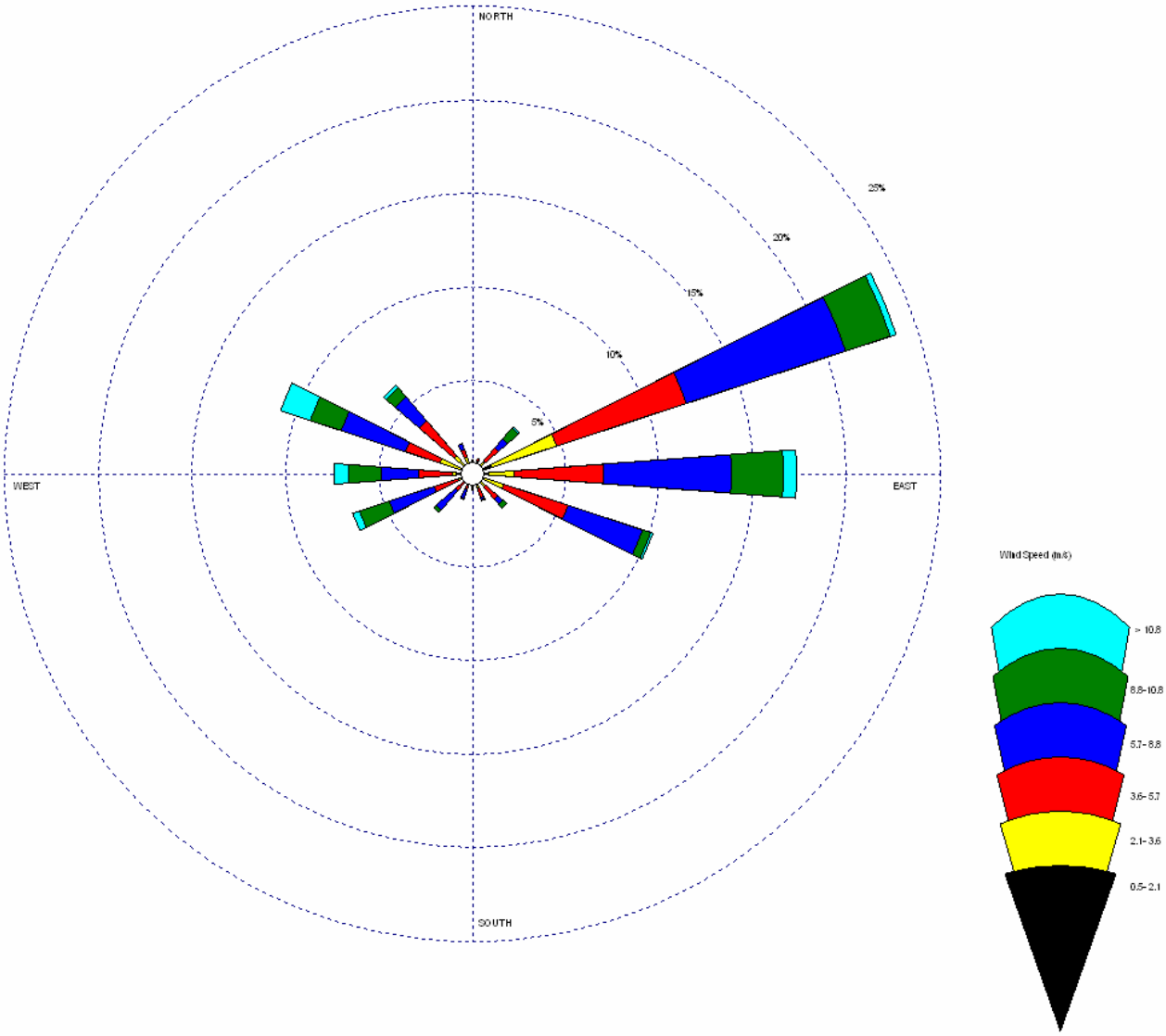
Site	Northstar
Date	Composite of all May data 2001-2005
Company	MMS
Unit	M/S



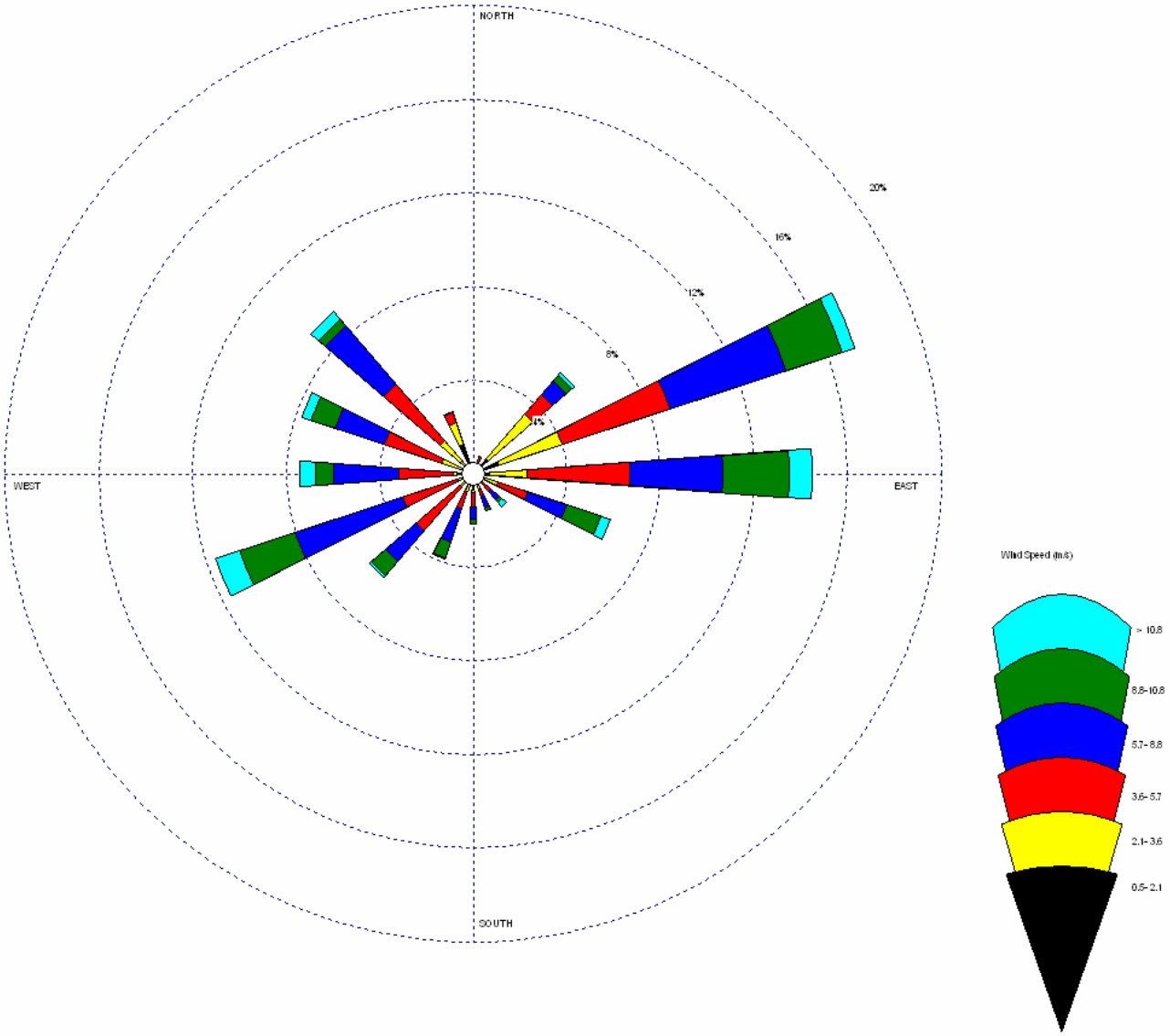
Site	Endicott
Date	Composite of all June data 2001-2005
Company	MMS
Unit	M/S



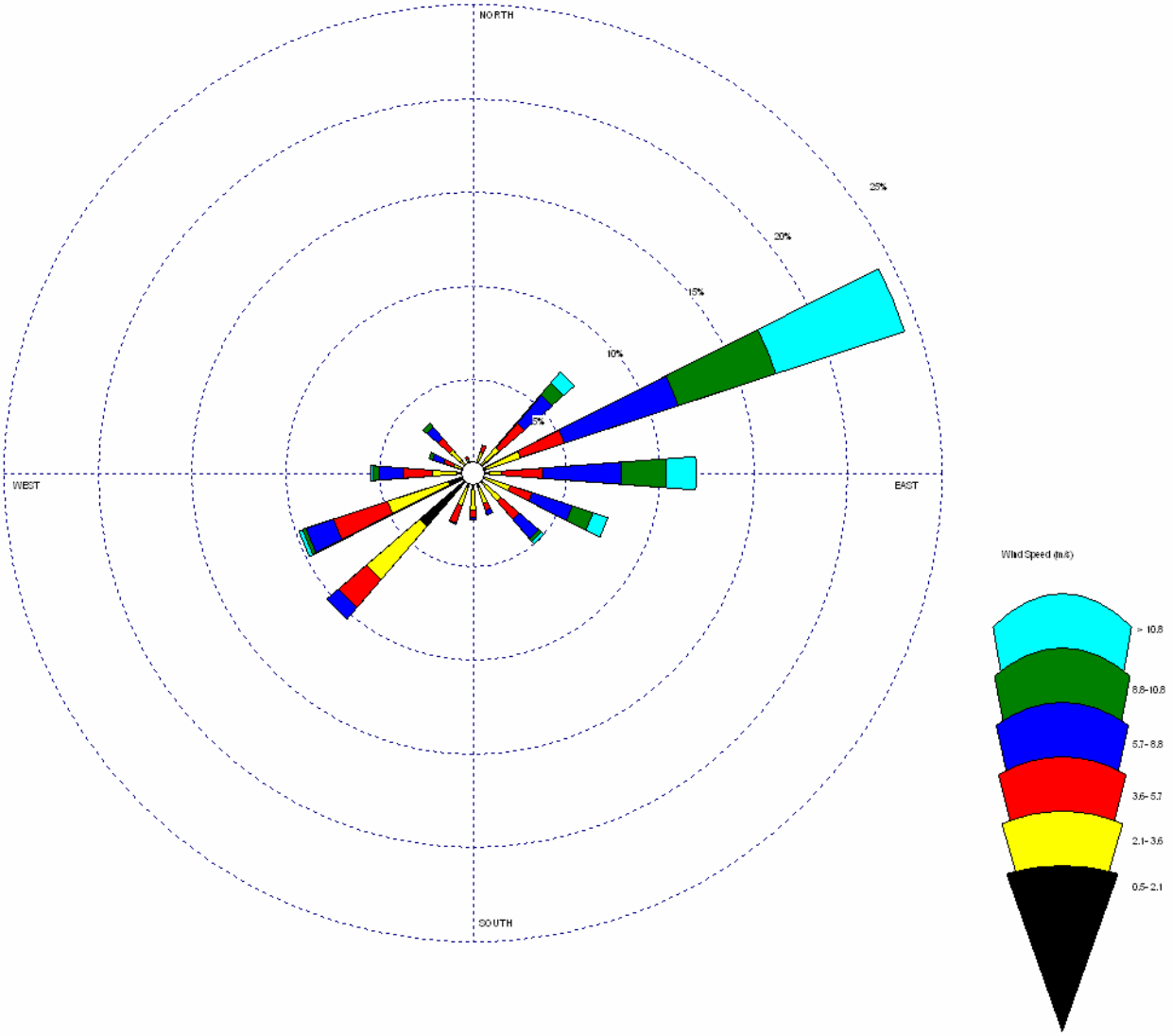
Site	Northstar
Date	Composite of all July data 2001-2004
Company	MMS
Unit	M/S



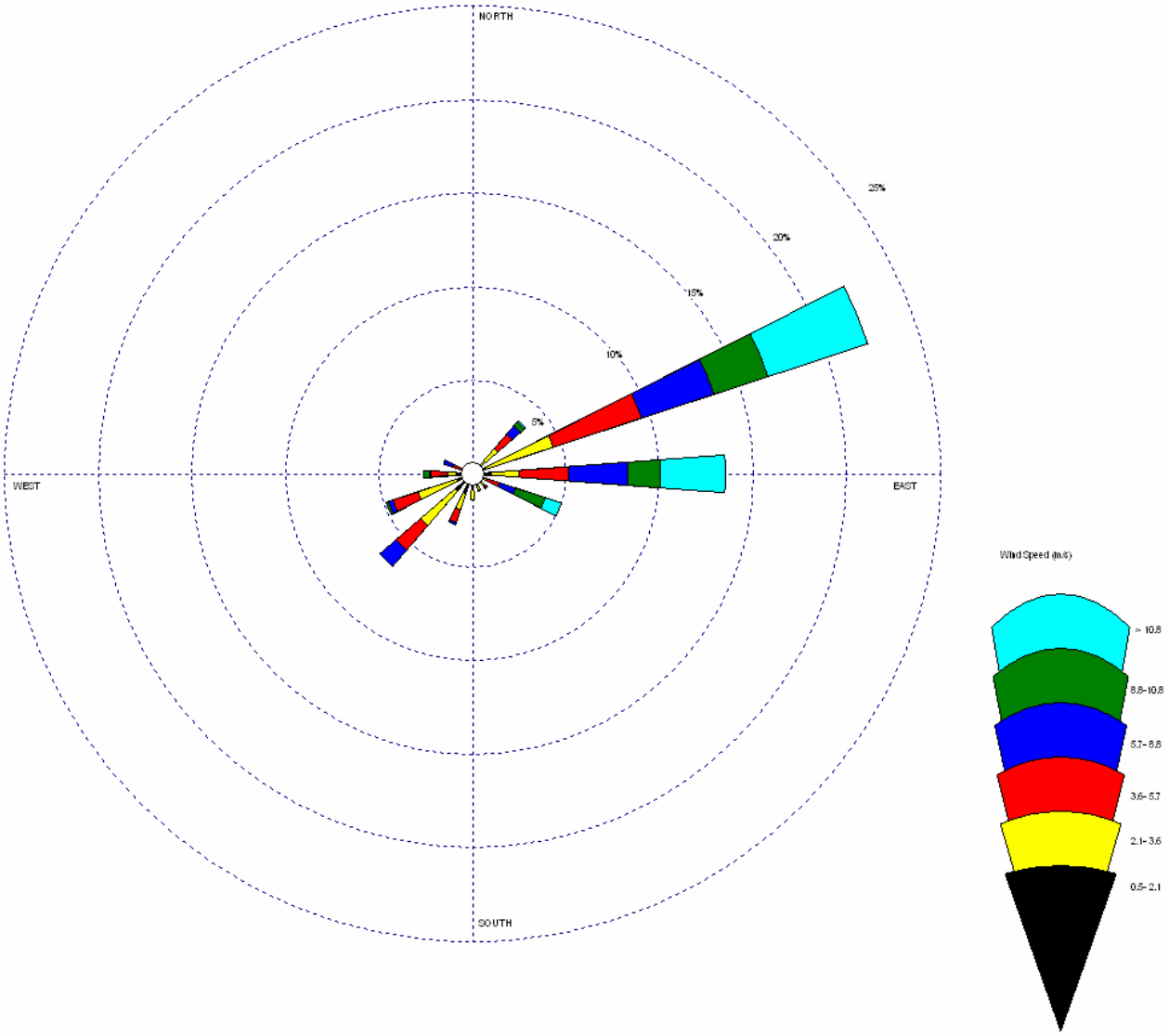
Site	Northstar
Date	Composite of all August data 2001-2004
Company	MMS
Unit	M/S



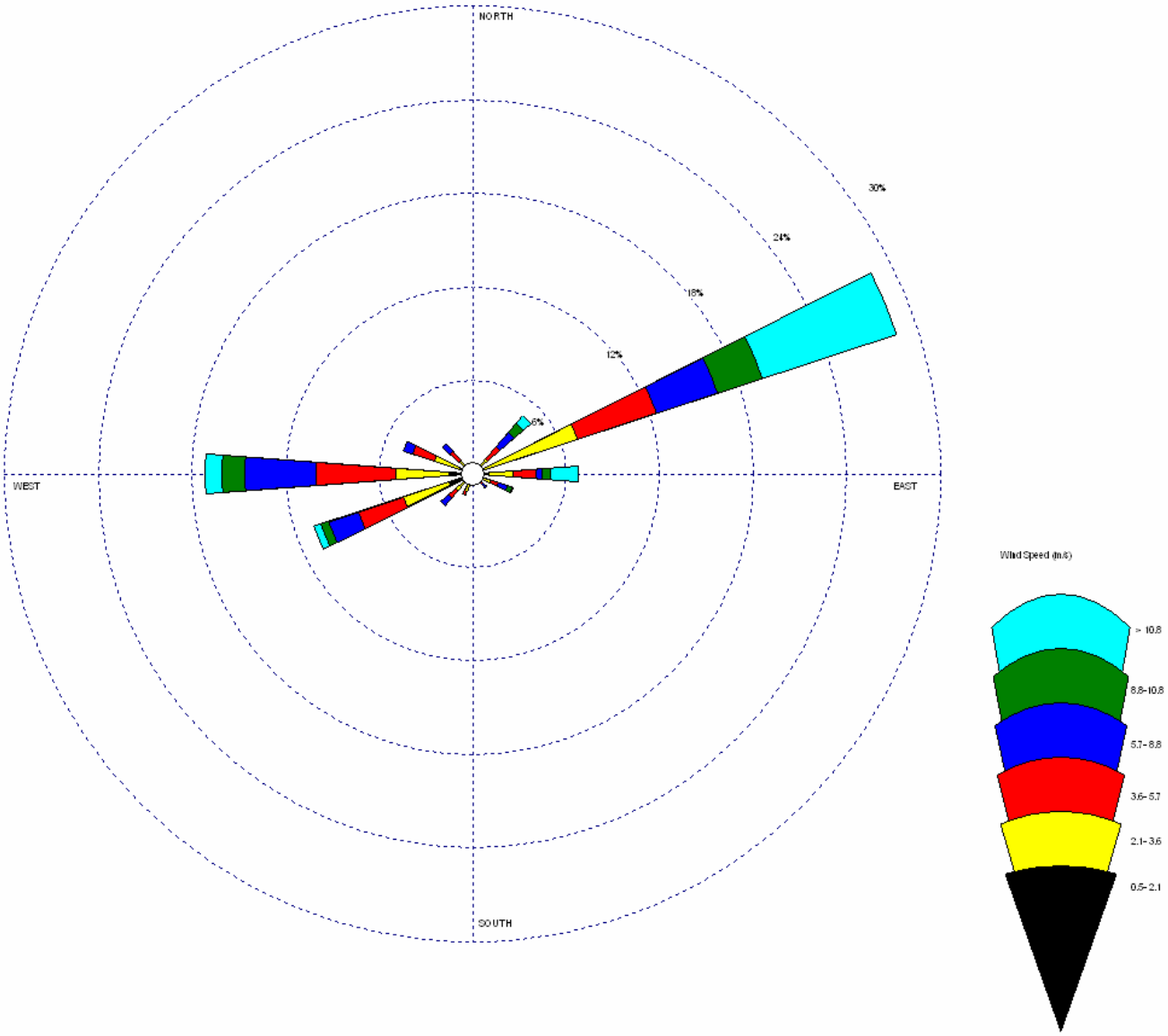
Site	Northstar
Date	Composite of all September data 2001-2004
Company	MMS
Unit	M/S



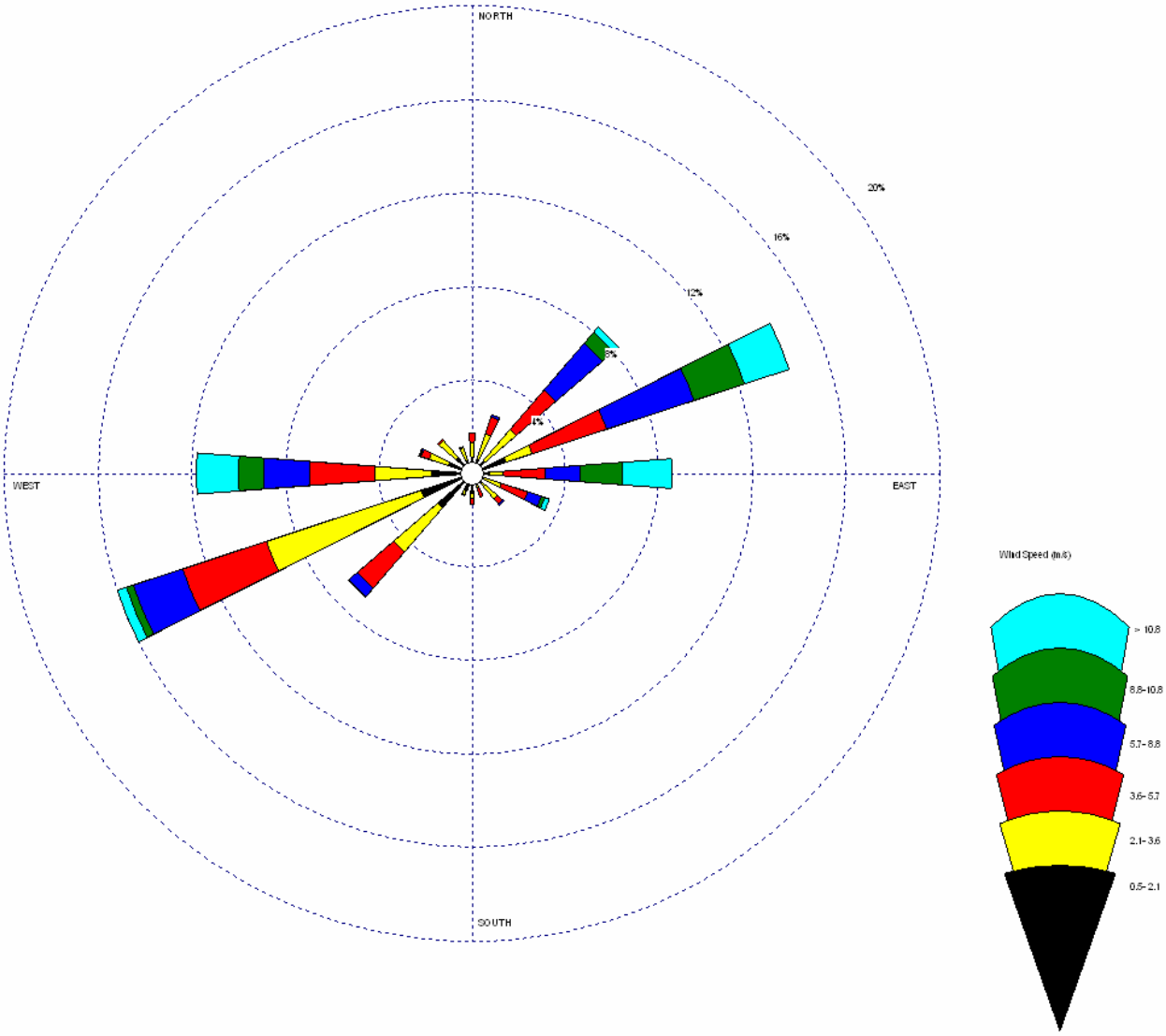
Site	Northstar
Date	Composite of all October data 2001-2004
Company	MMS
Unit	M/S



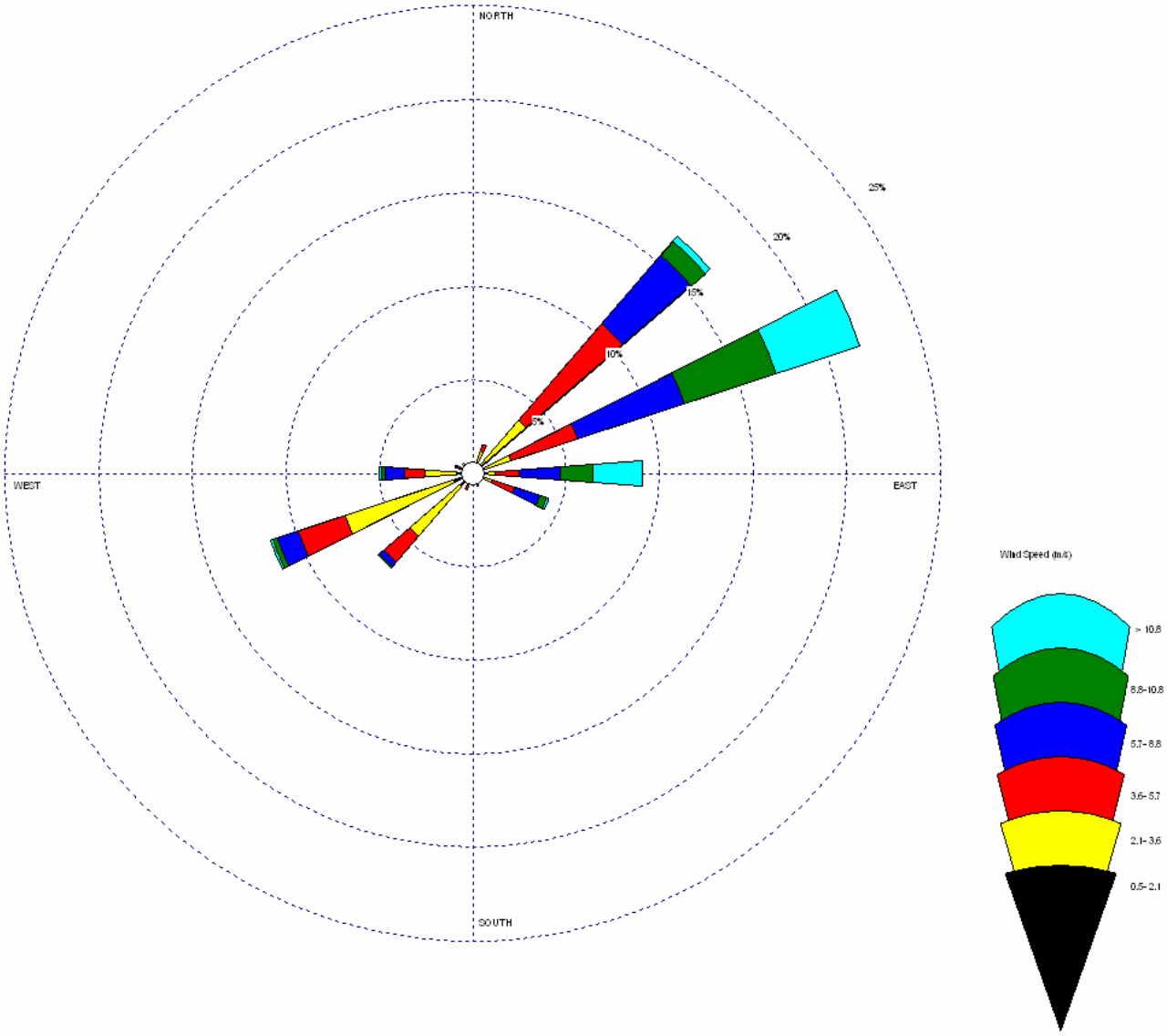
Site	Northstar
Date	Composite of all November data 2001-2004
Company	MMS
Unit	M/S



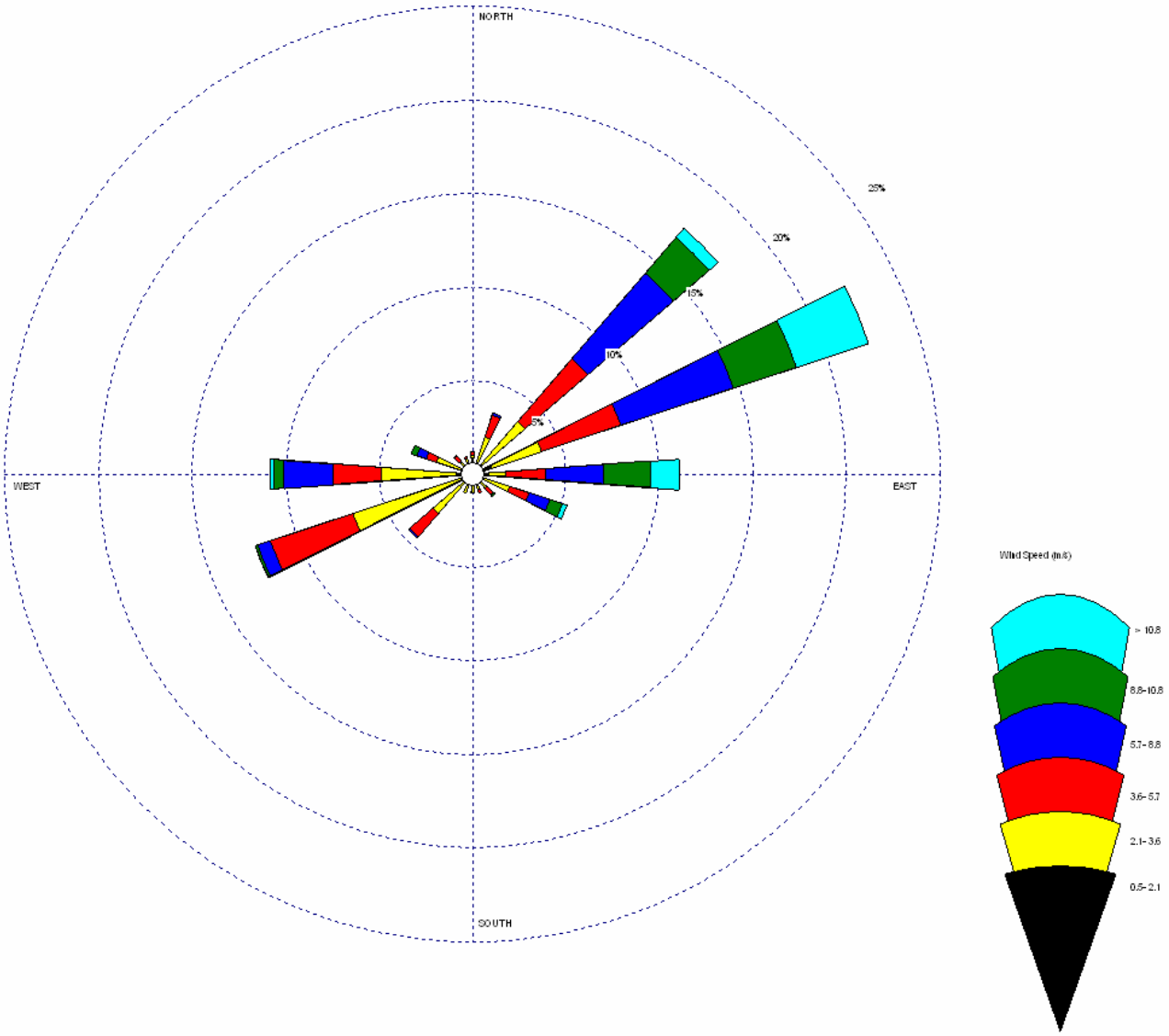
Site	Northstar
Date	Composite of all December data 2001-2004
Company	MMS
Unit	M/S



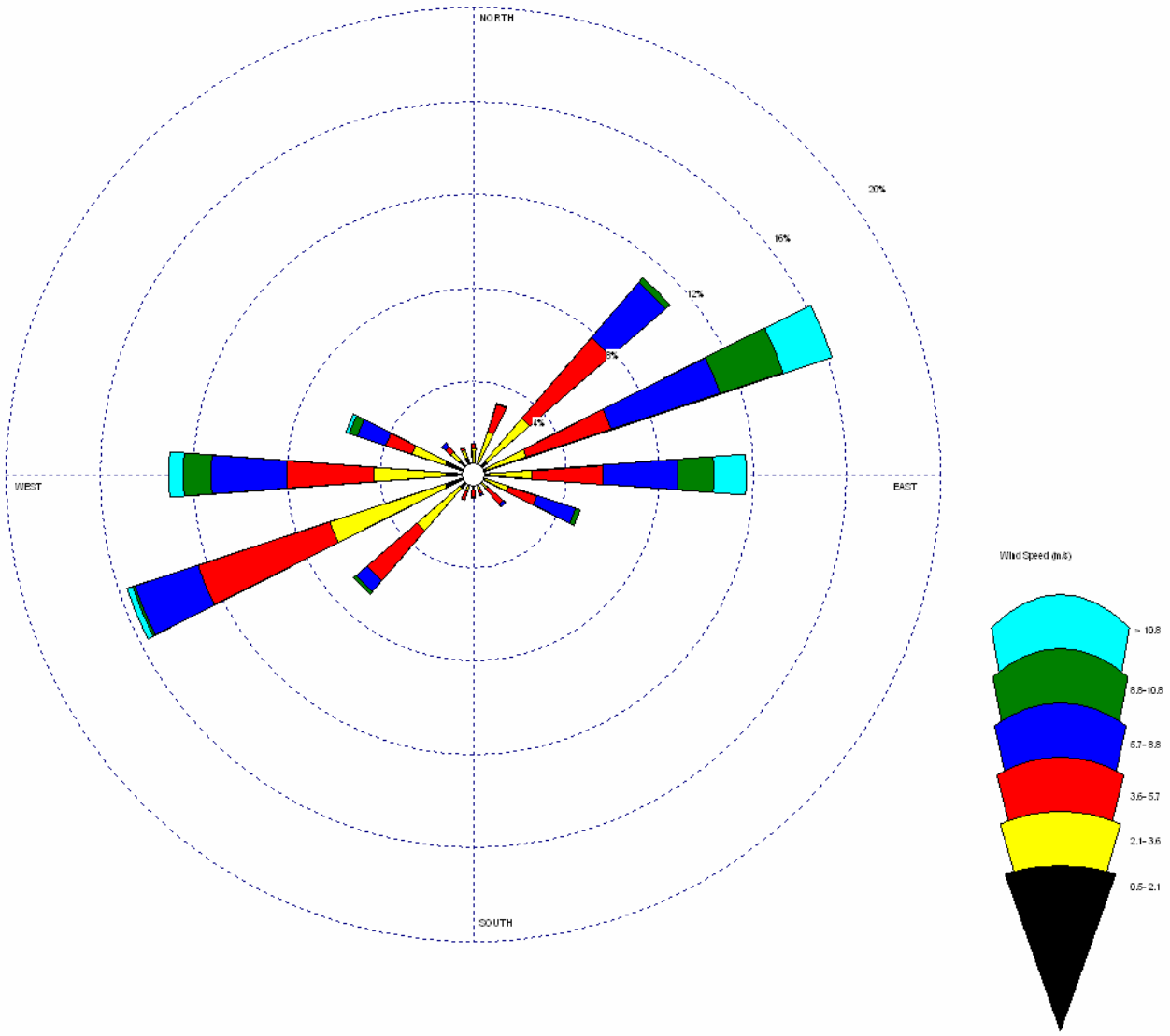
Site	Endicott
Date	Composite of all January data 2001-2005
Company	MMS
Unit	M/S



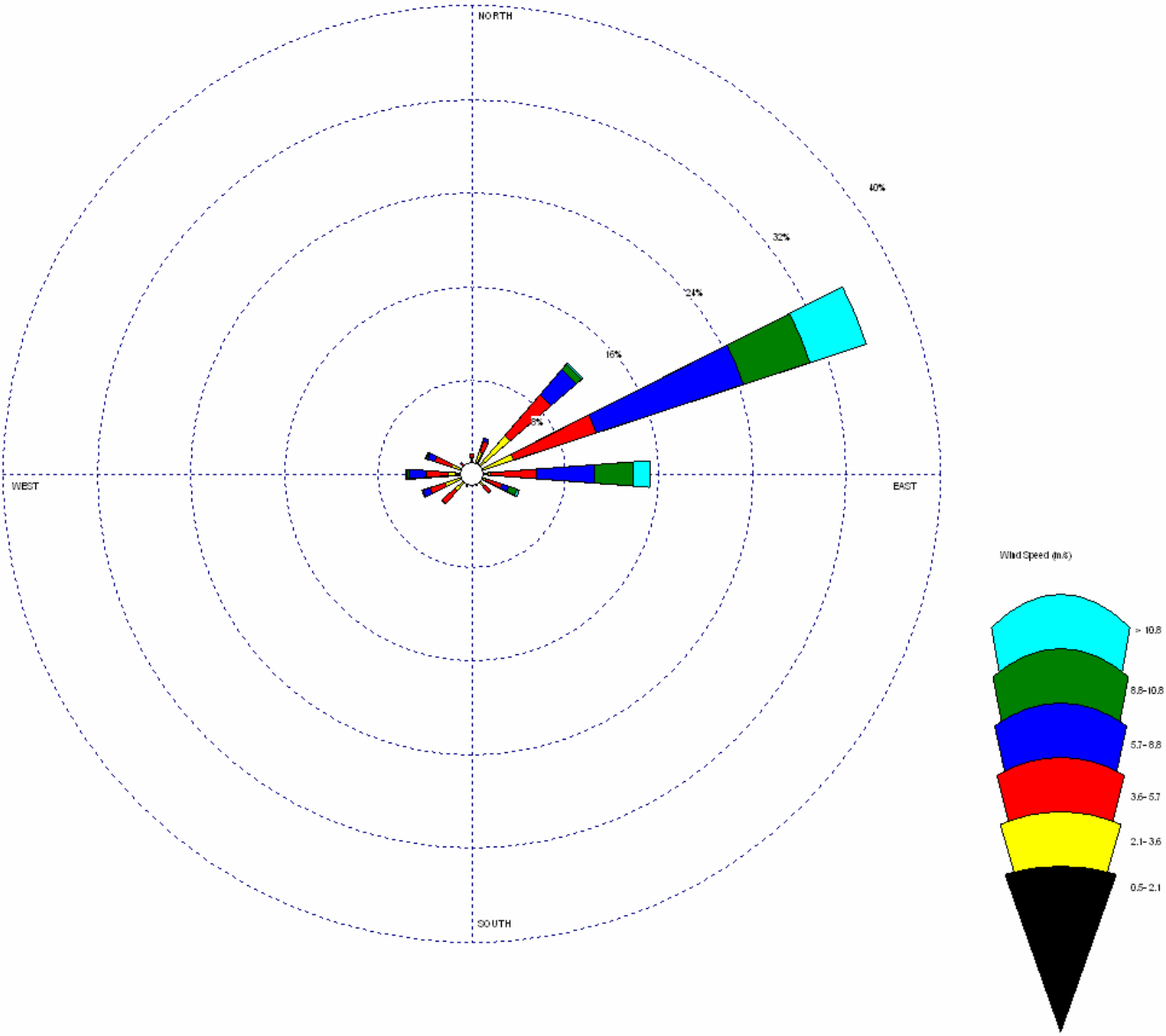
Site	Endicott
Date	Composite of all February data 2001-2005
Company	MMS
Unit	M/S



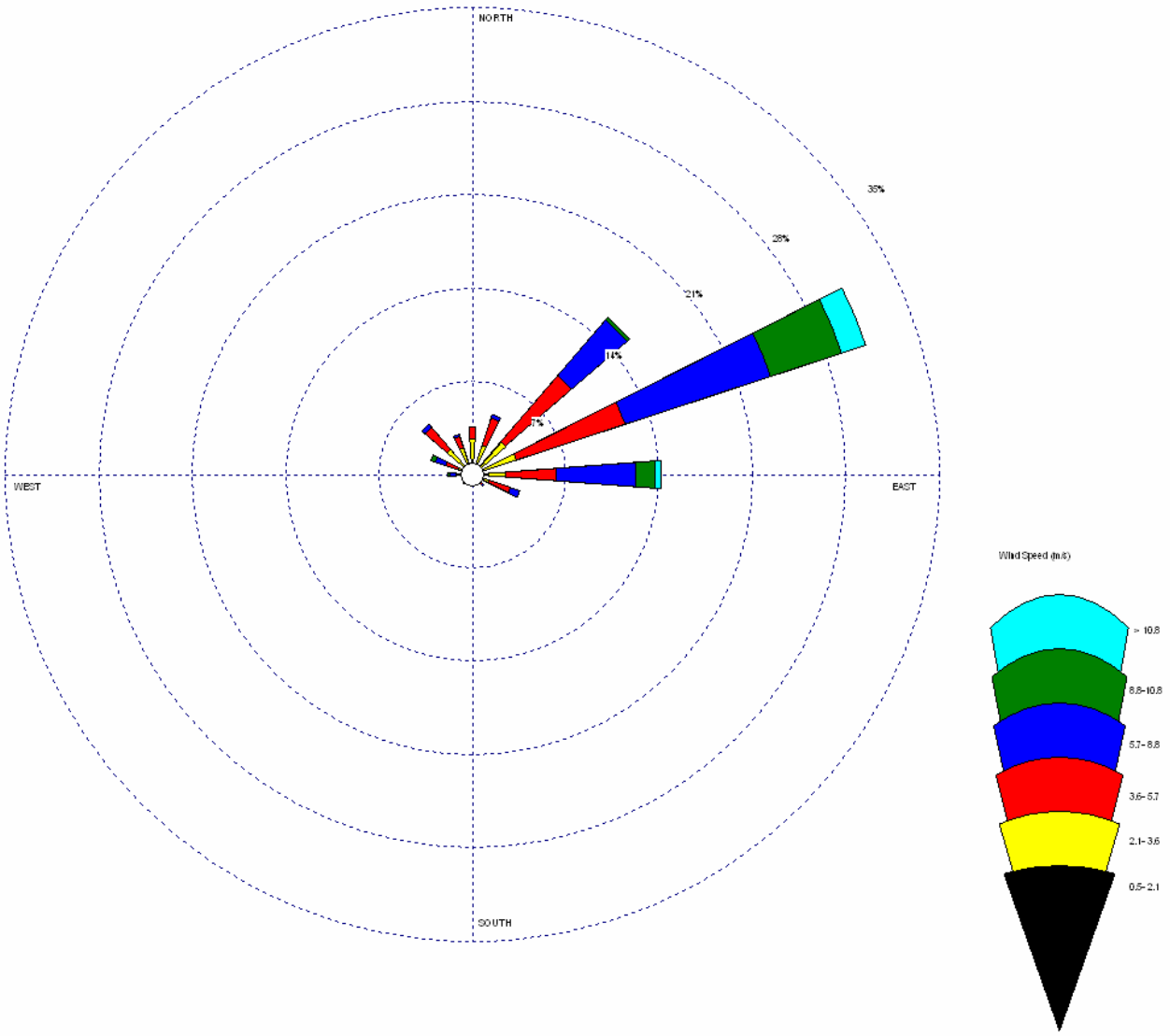
Site	Endicott
Date	Composite of all March data 2001-2005
Company	MMS
Unit	M/S



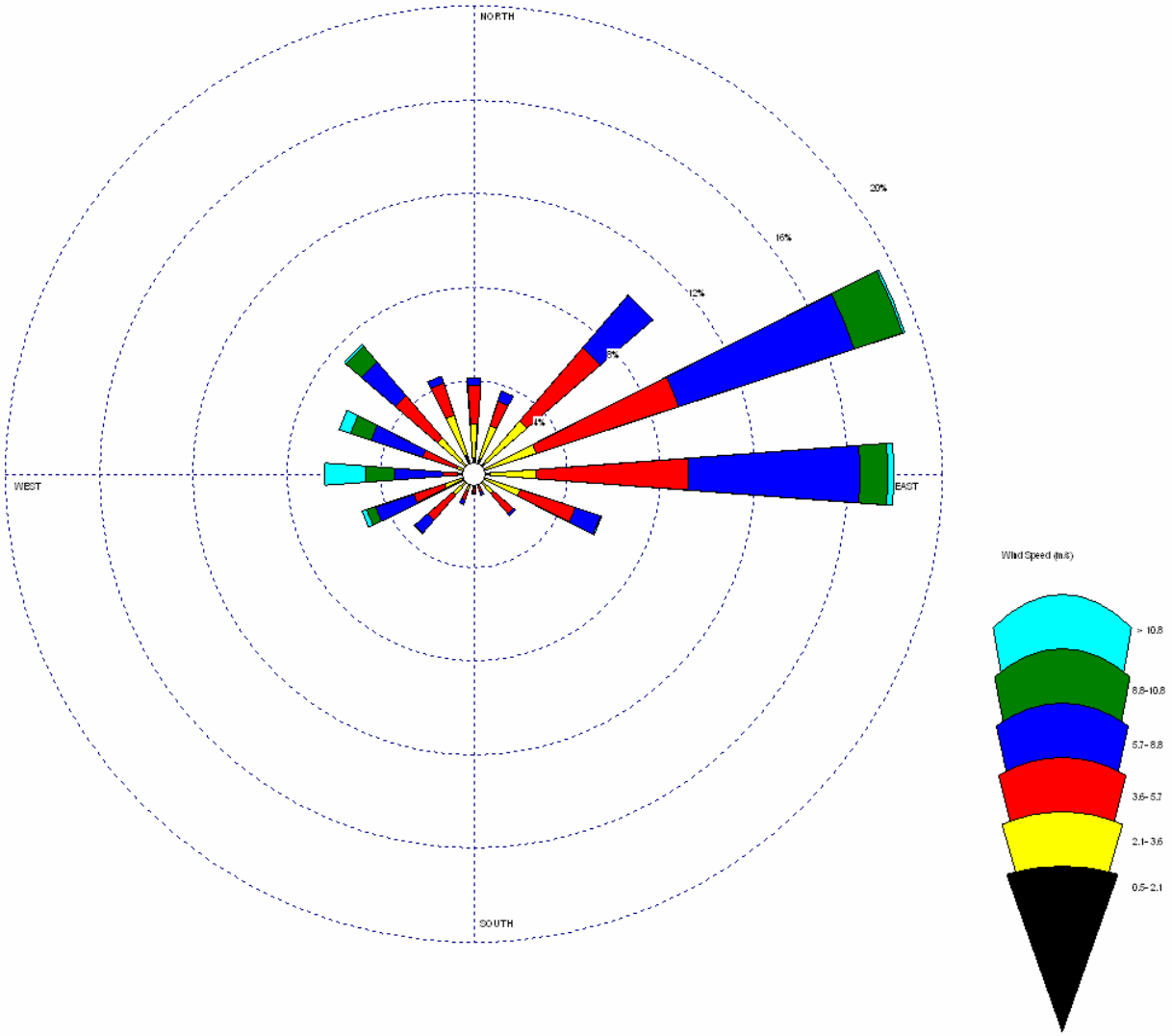
Site	Endicott
Date	Composite of all April data 2001-2005
Company	MMS
Unit	M/S



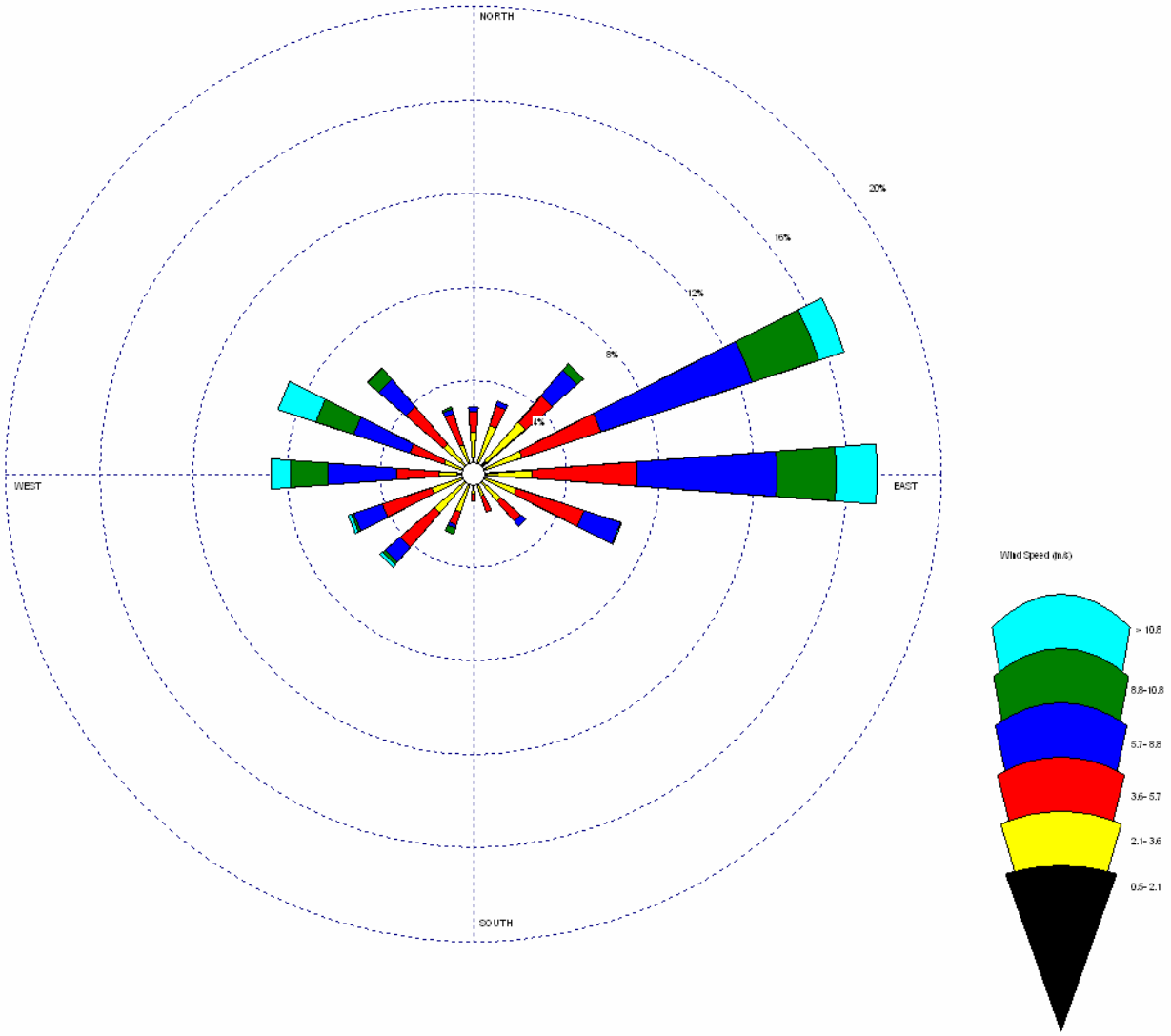
Site	Endicott
Date	Composite of all May data 2001-2005
Company	MMS
Unit	M/S



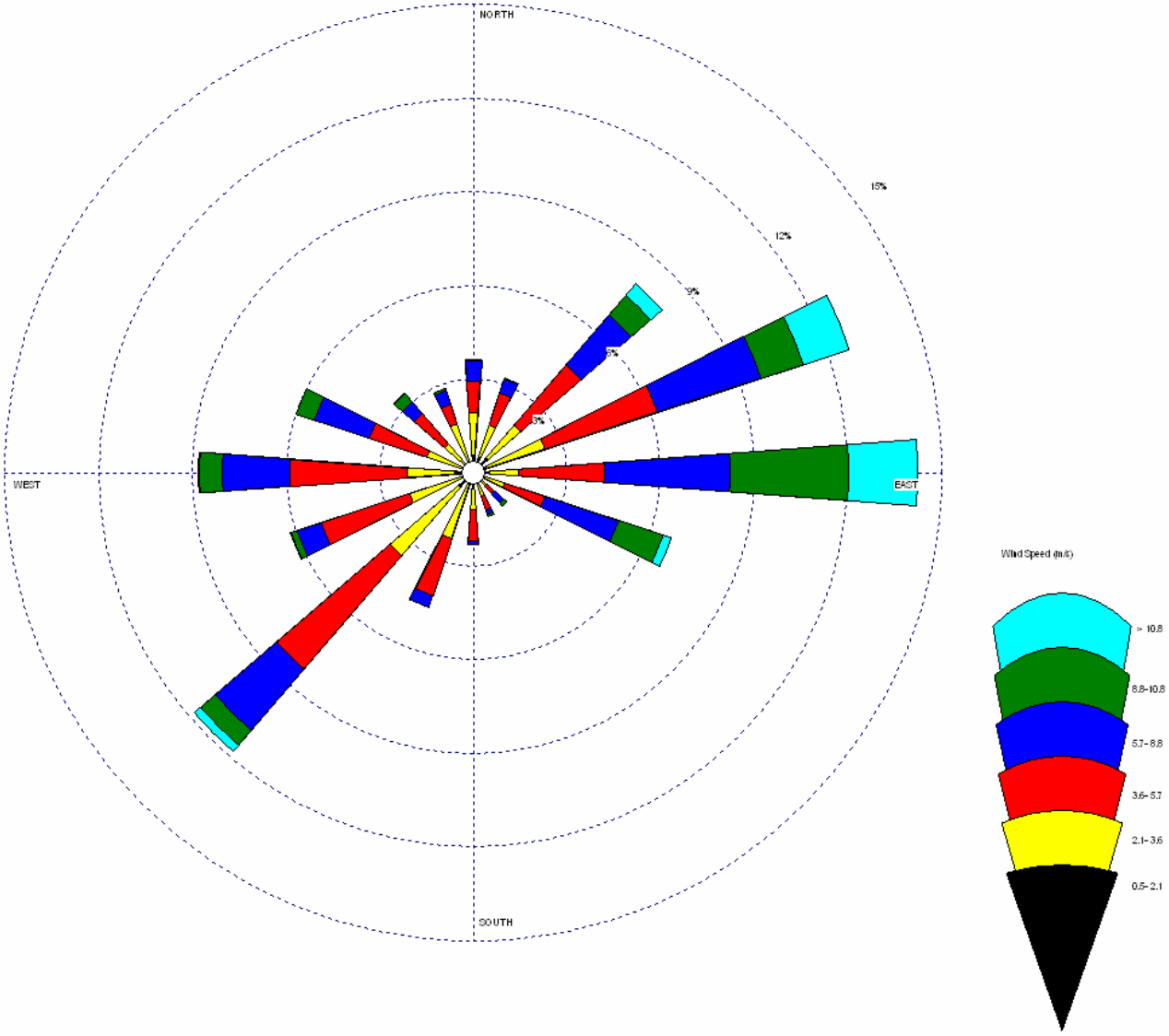
Site	Endicott
Date	Composite of all June data 2001-2005
Company	MMS
Unit	M/S



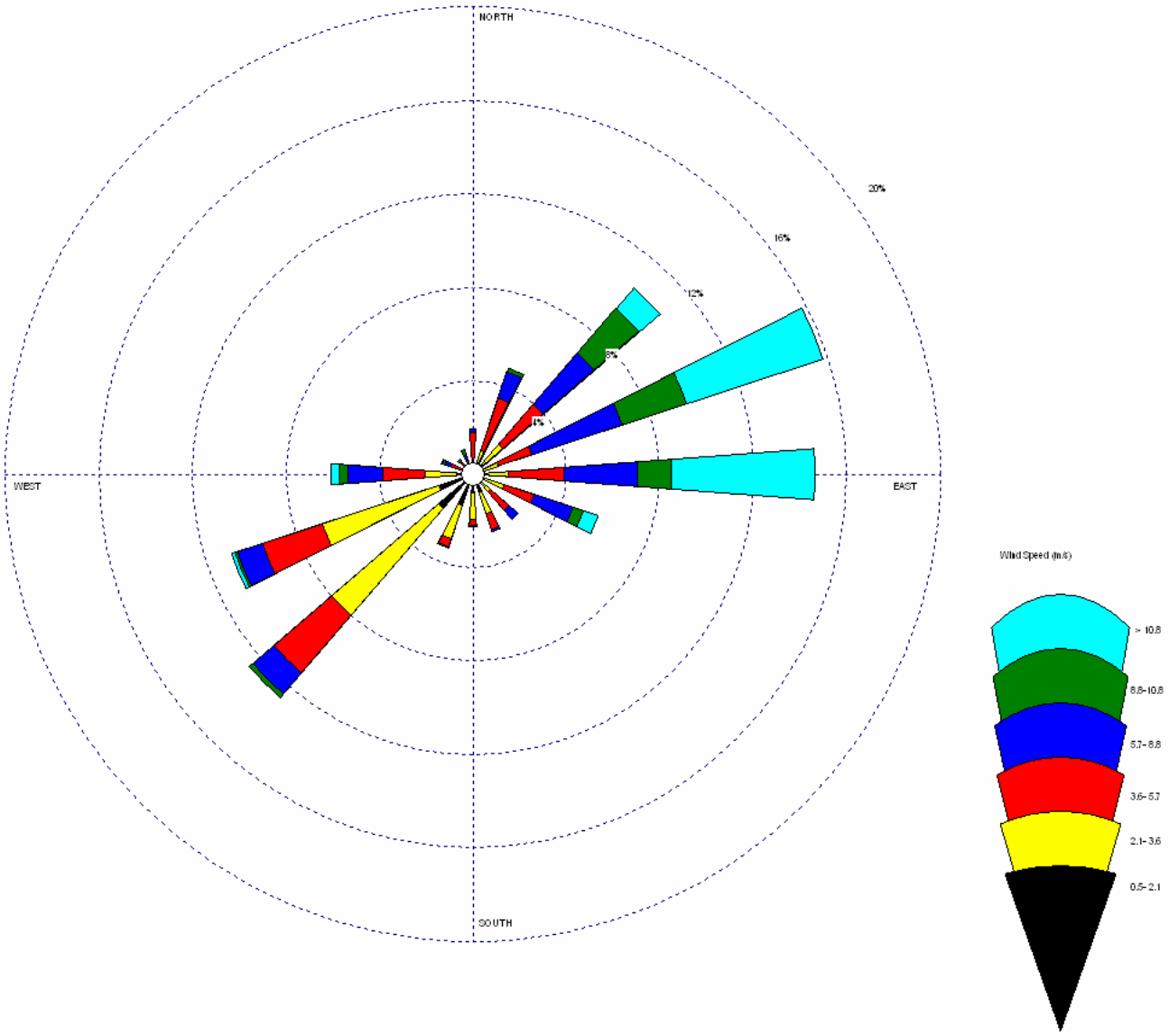
Site	Endicott
Date	Composite of all July data 2001-2004
Company	MMS
Unit	M/S



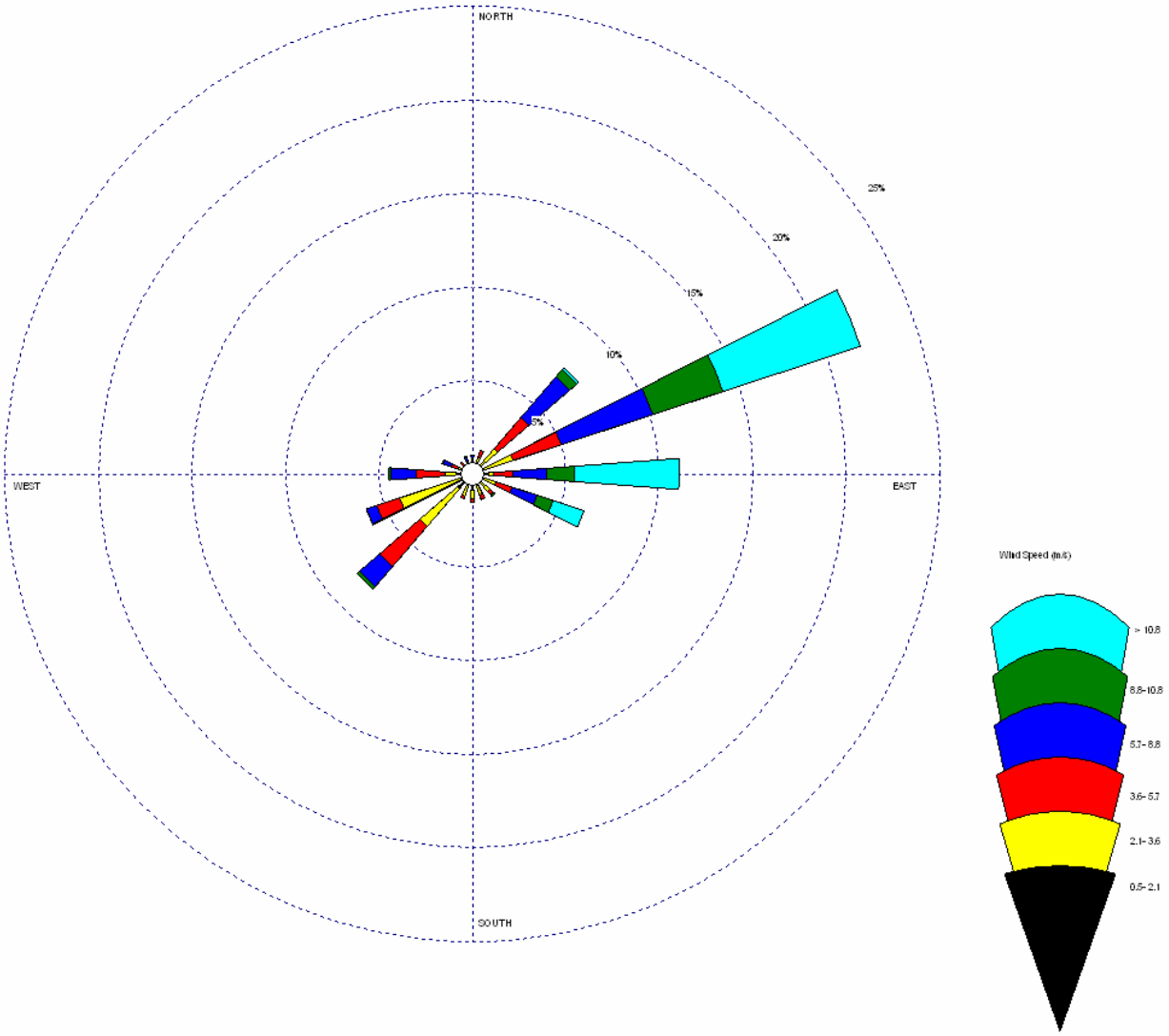
Site	Endicott
Date	Composite of all August data 2001-2004
Company	MMS
Unit	M/S



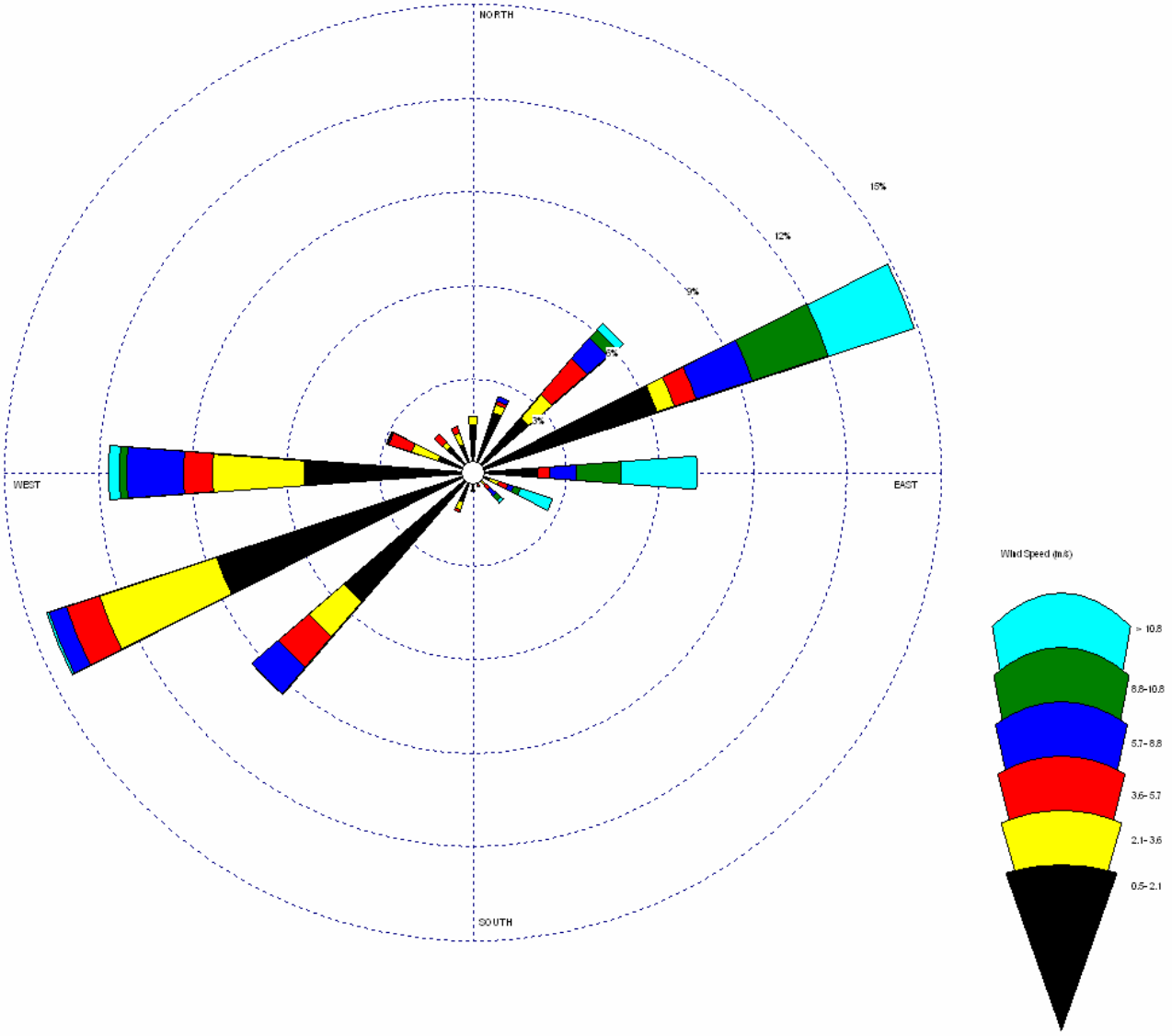
Site	Endicott
Date	Composite of all September data 2001-2004
Company	MMS
Unit	M/S



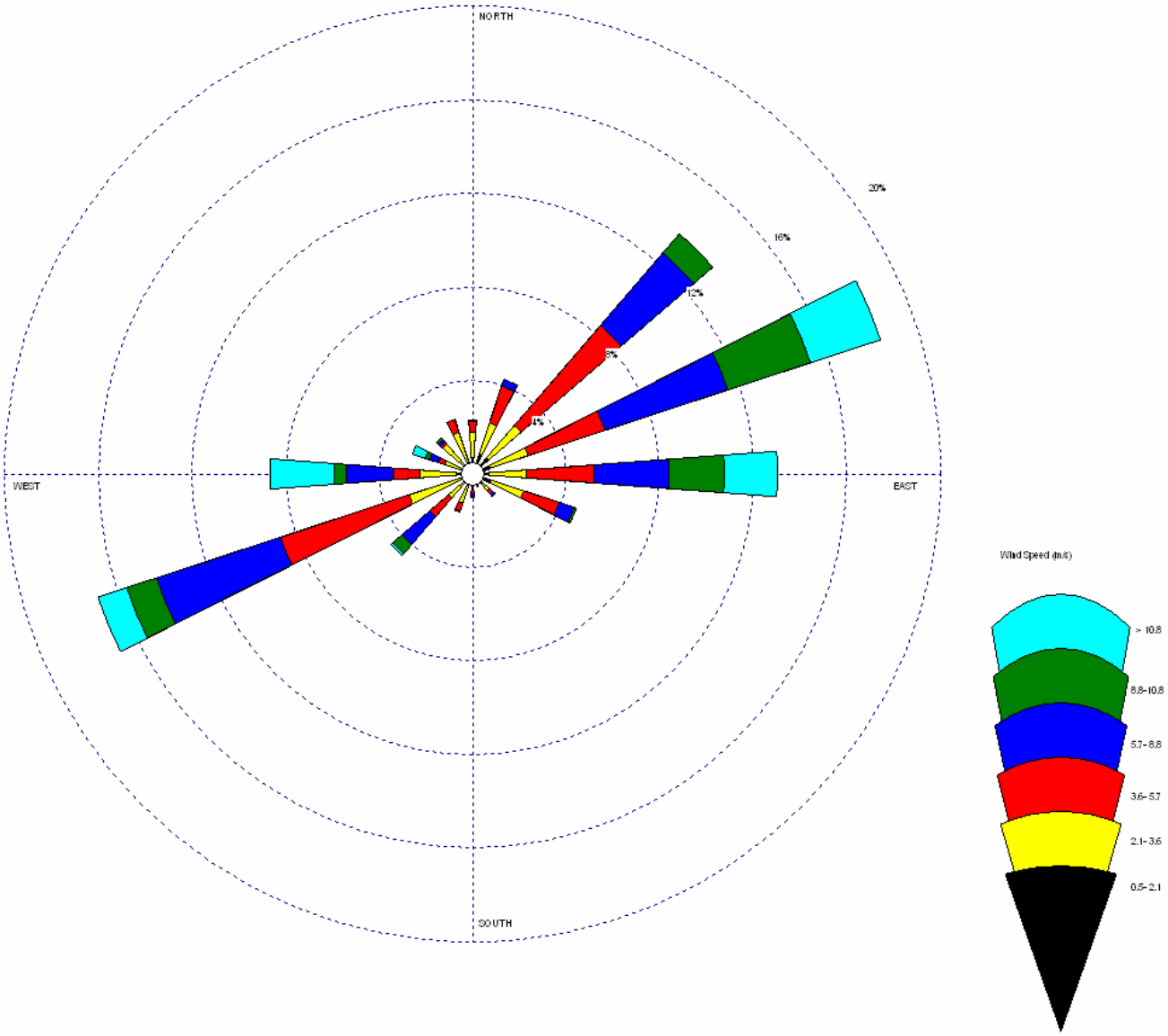
Site	Endicott
Date	Composite of all October data 2001-2004
Company	MMS
Unit	M/S



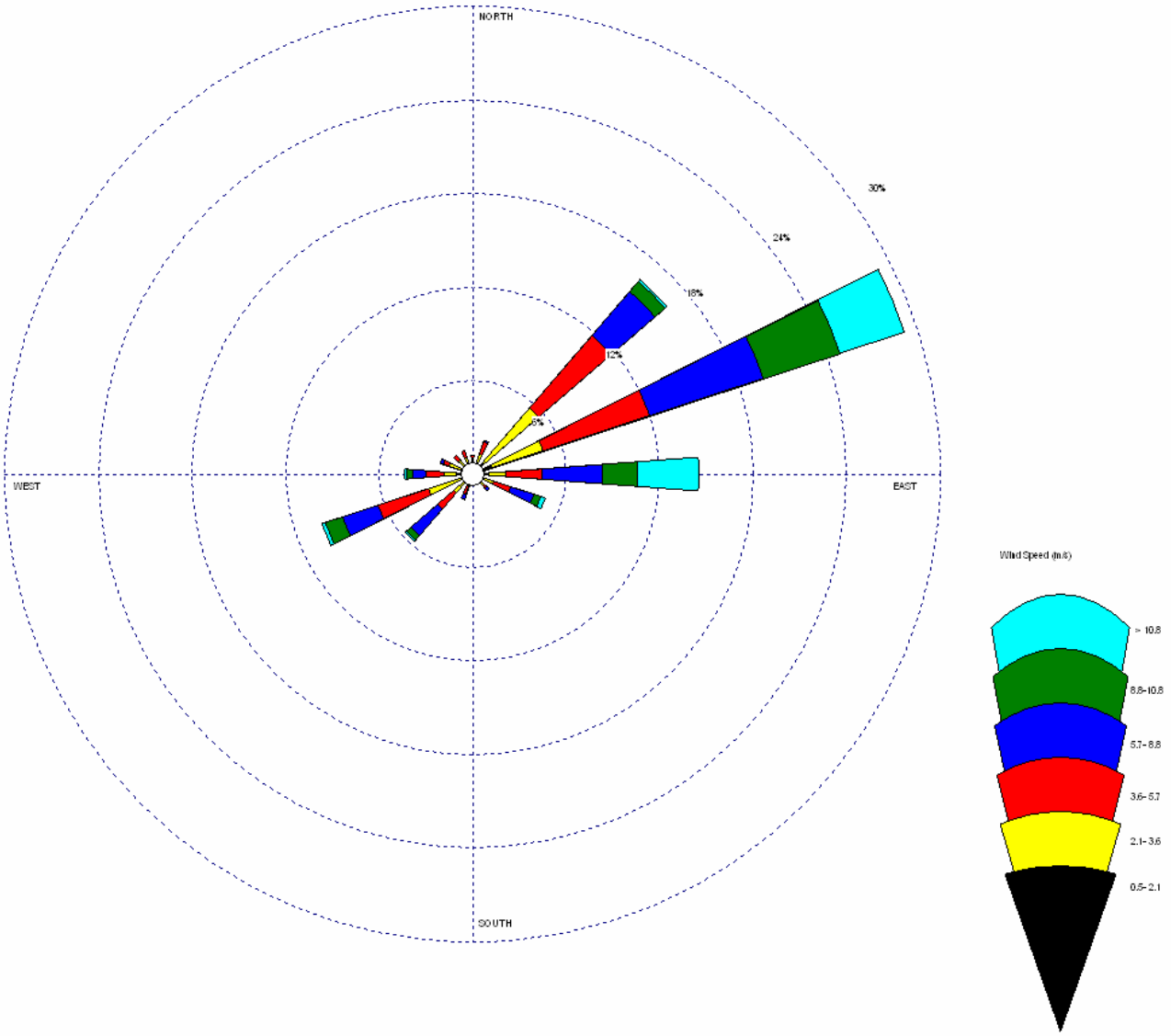
Site	Endicott
Date	Composite of all November data 2001-2004
Company	MMS
Unit	M/S



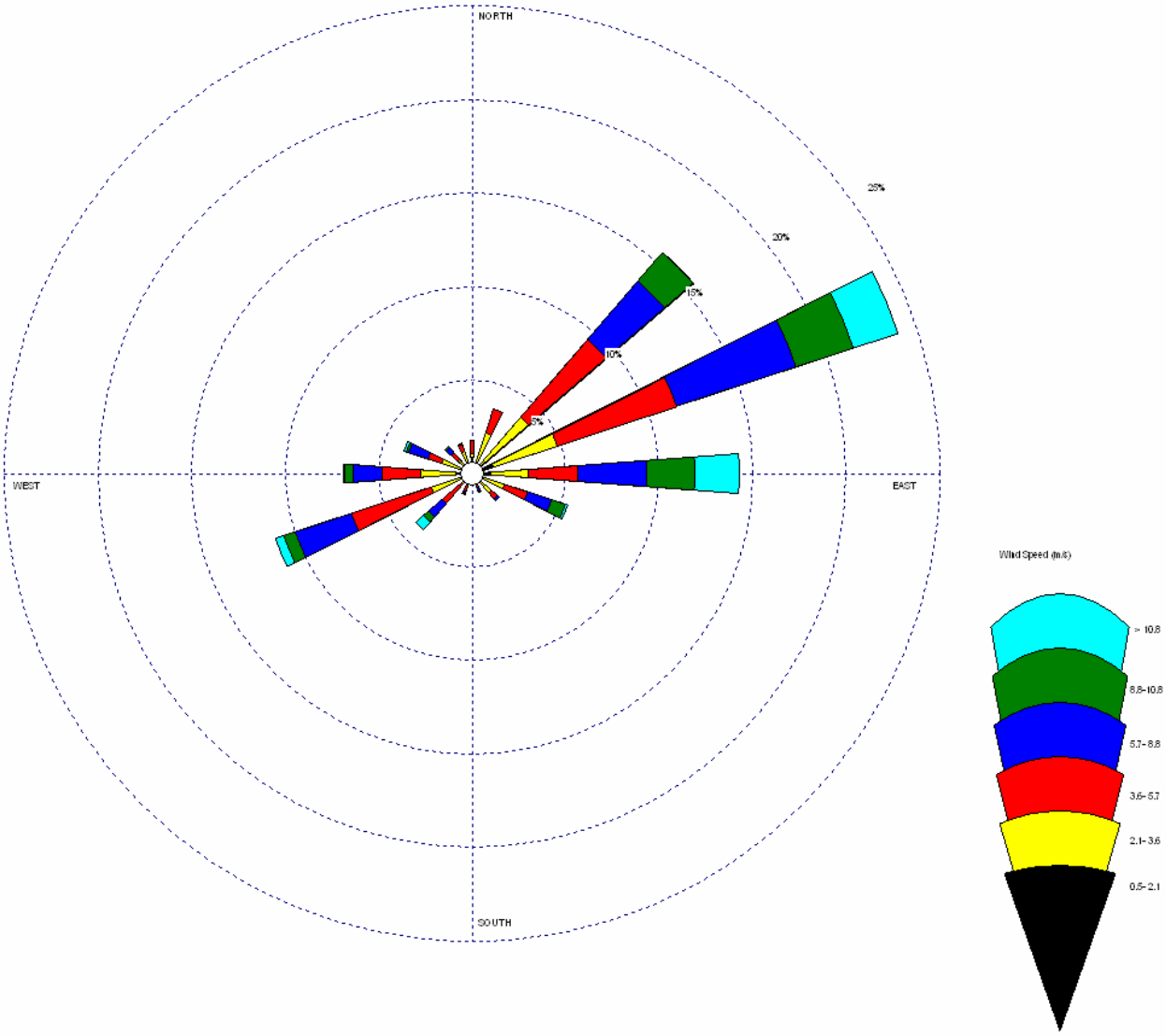
Site	Endicott
Date	Composite of all December data 2001-2004
Company	MMS
Unit	M/S



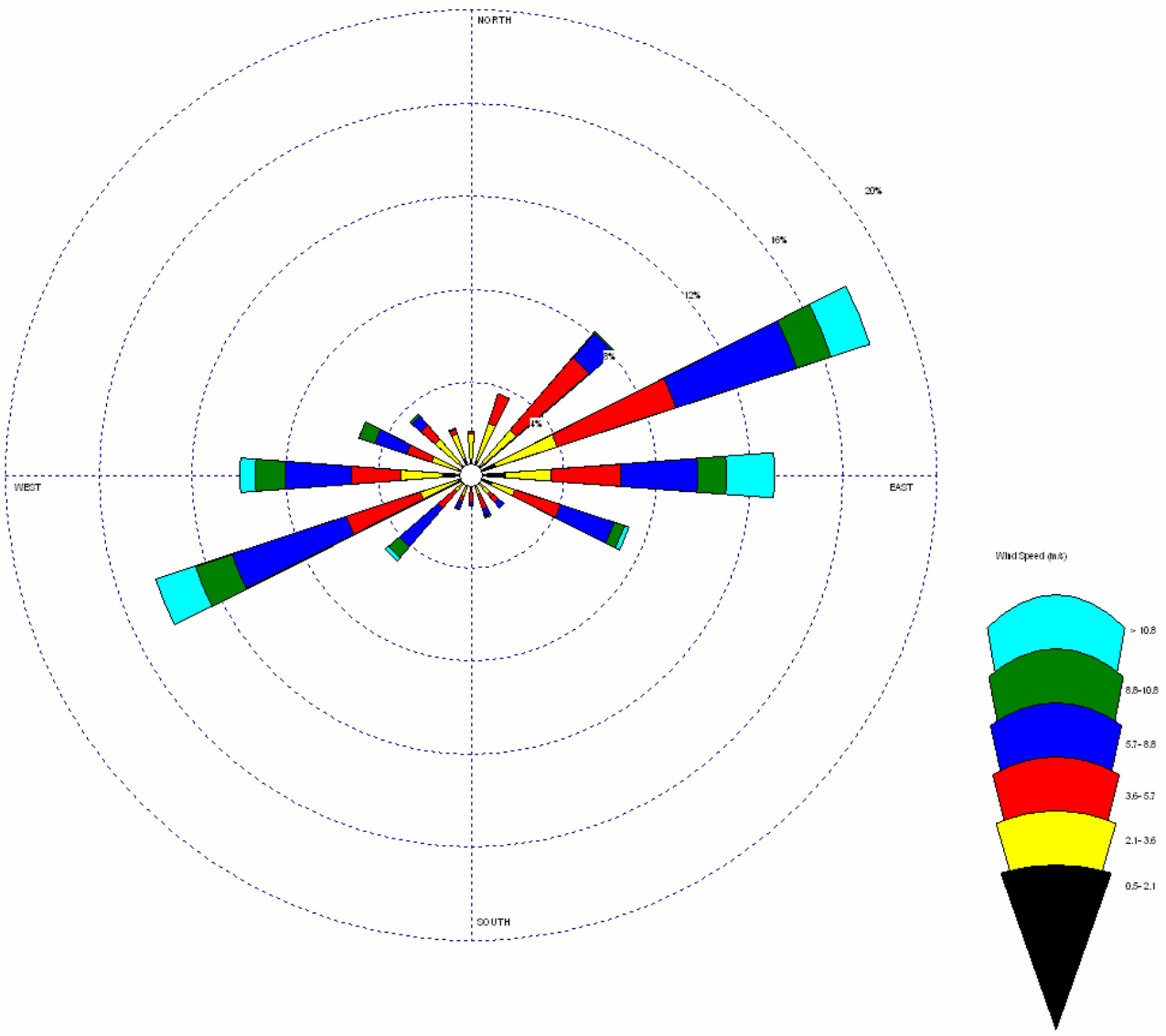
Site	Milne Point
Date	Composite of all January data 2001-2005
Company	MMS
Unit	M/S



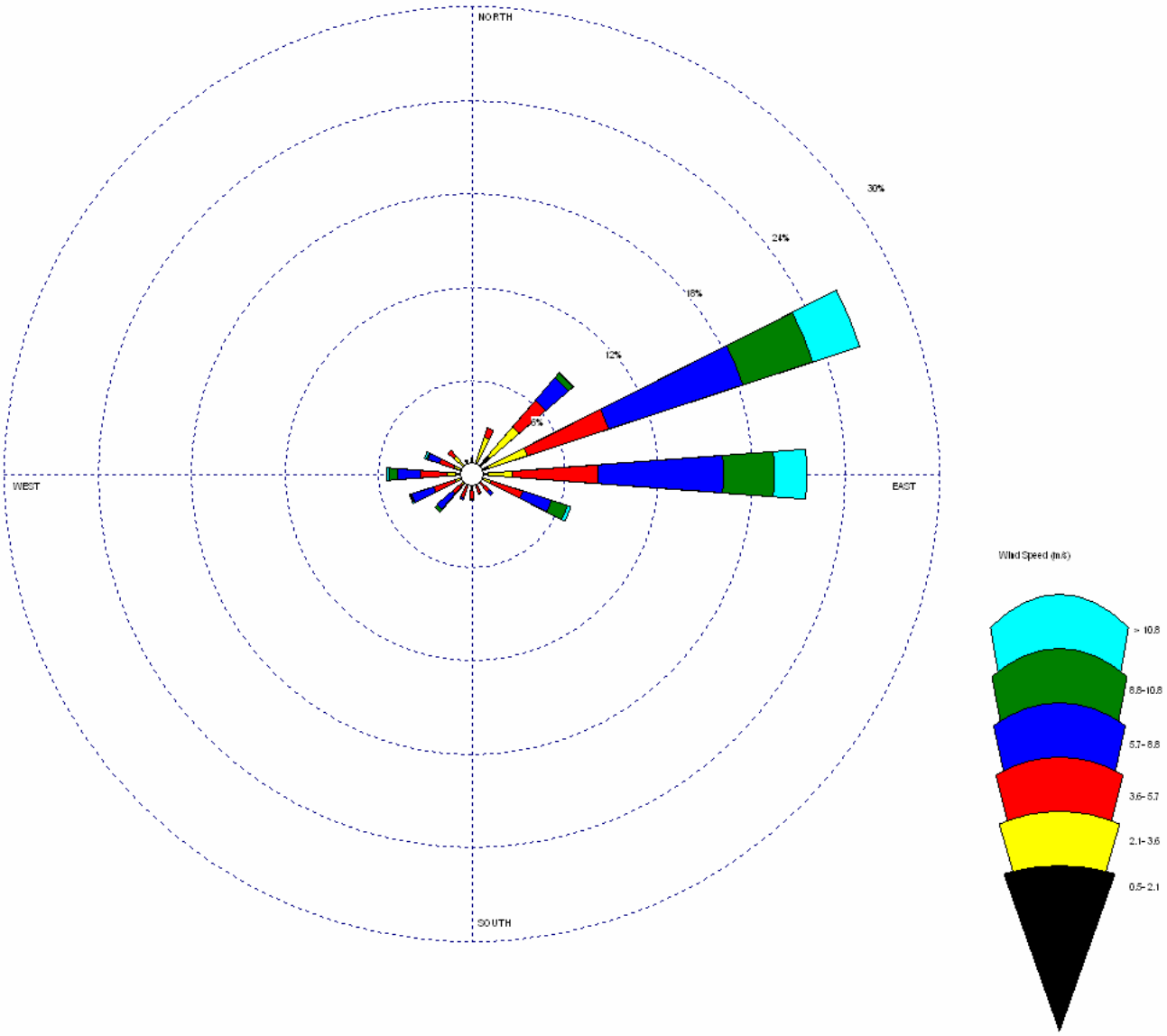
Site	Milne Point
Date	Composite of all February data 2001- 2005
Company	MMS
Unit	M/S



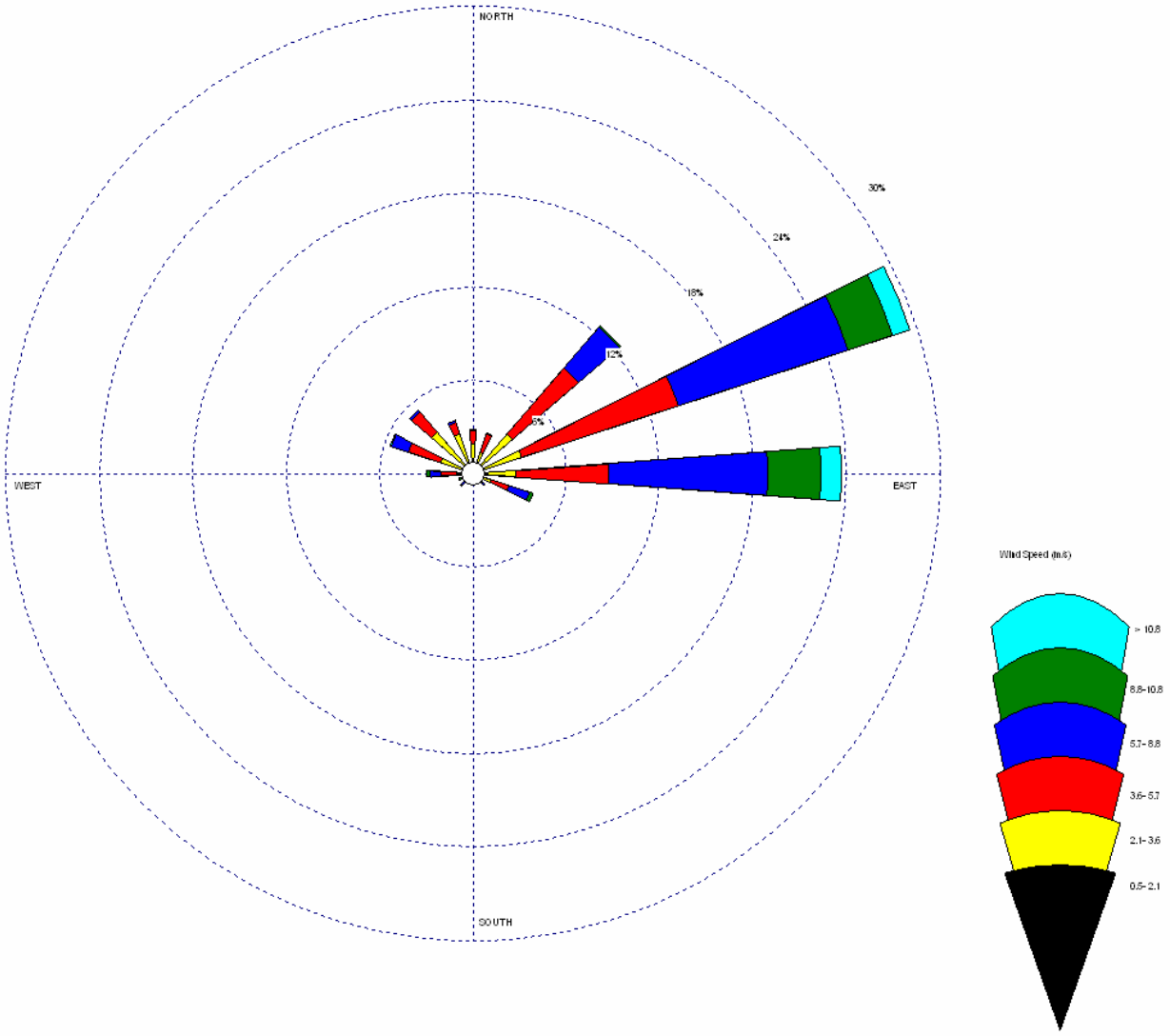
Site	Milne Point
Date	Composite of all March data 2001-2005
Company	MMS
Unit	M/S



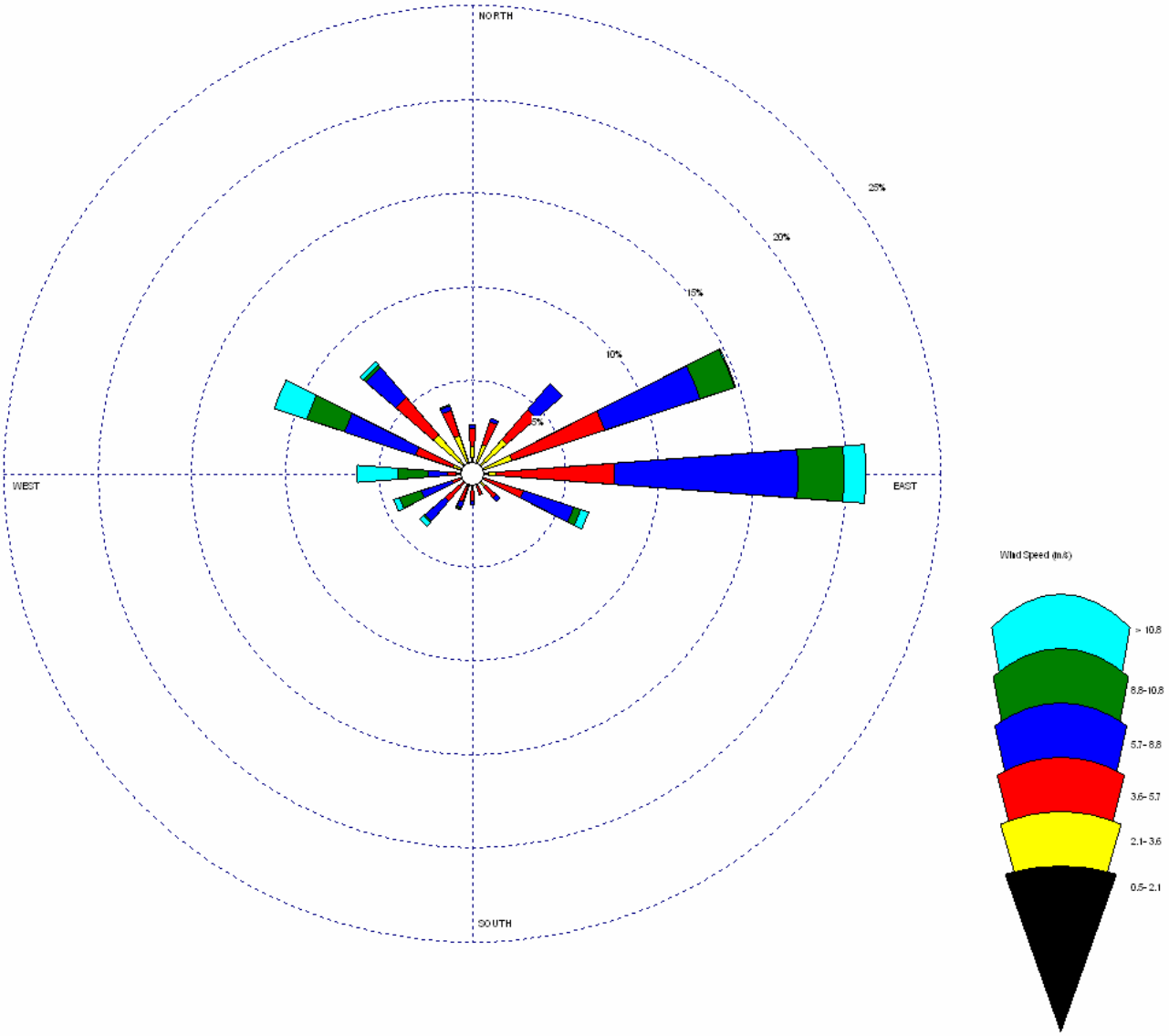
Site	Milne Point
Date	Composite of all April data 2001-2005
Company	MMS
Unit	M/S



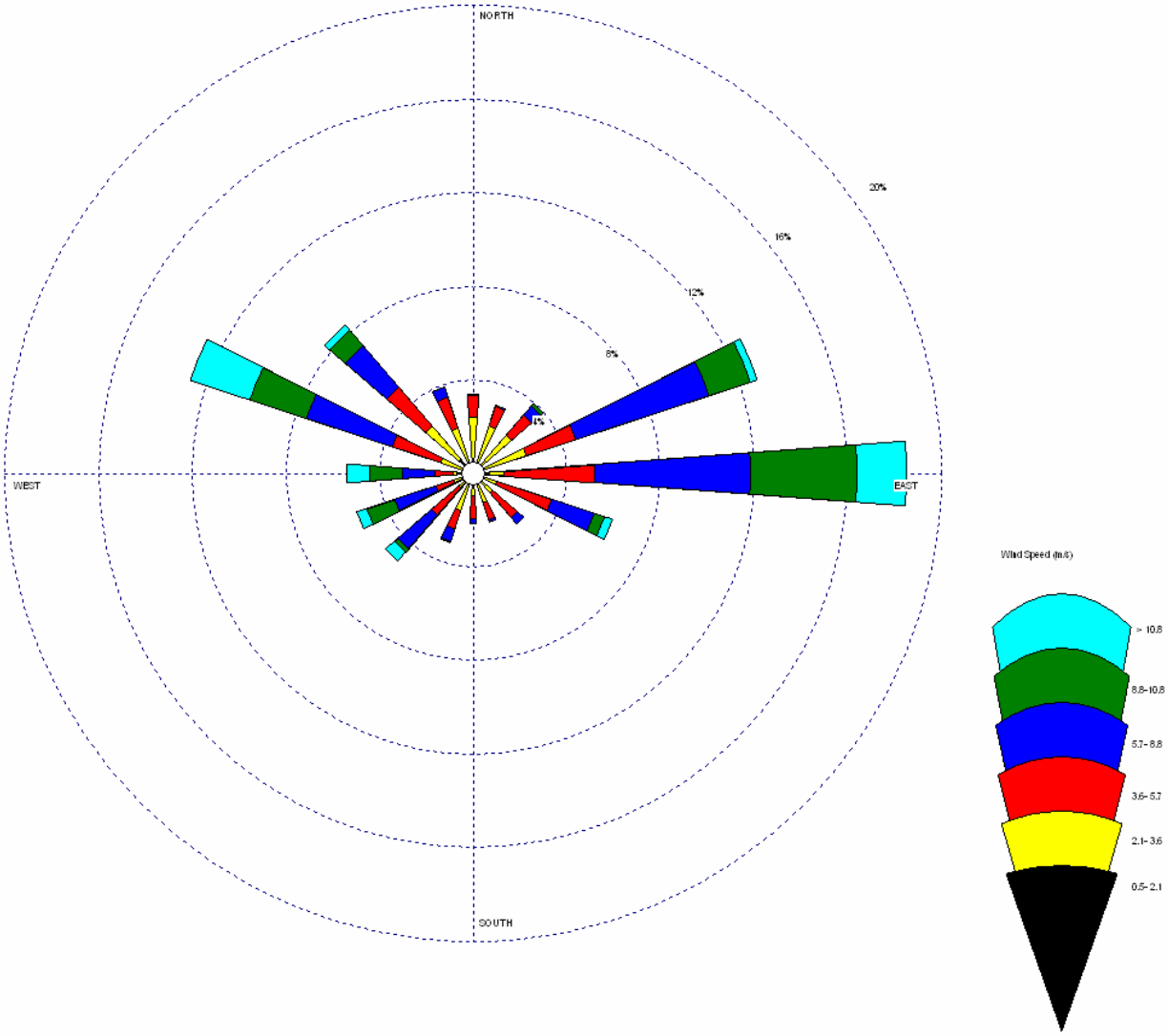
Site	Milne Point
Date	Composite of all May data 2001-2005
Company	MMS
Unit	M/S



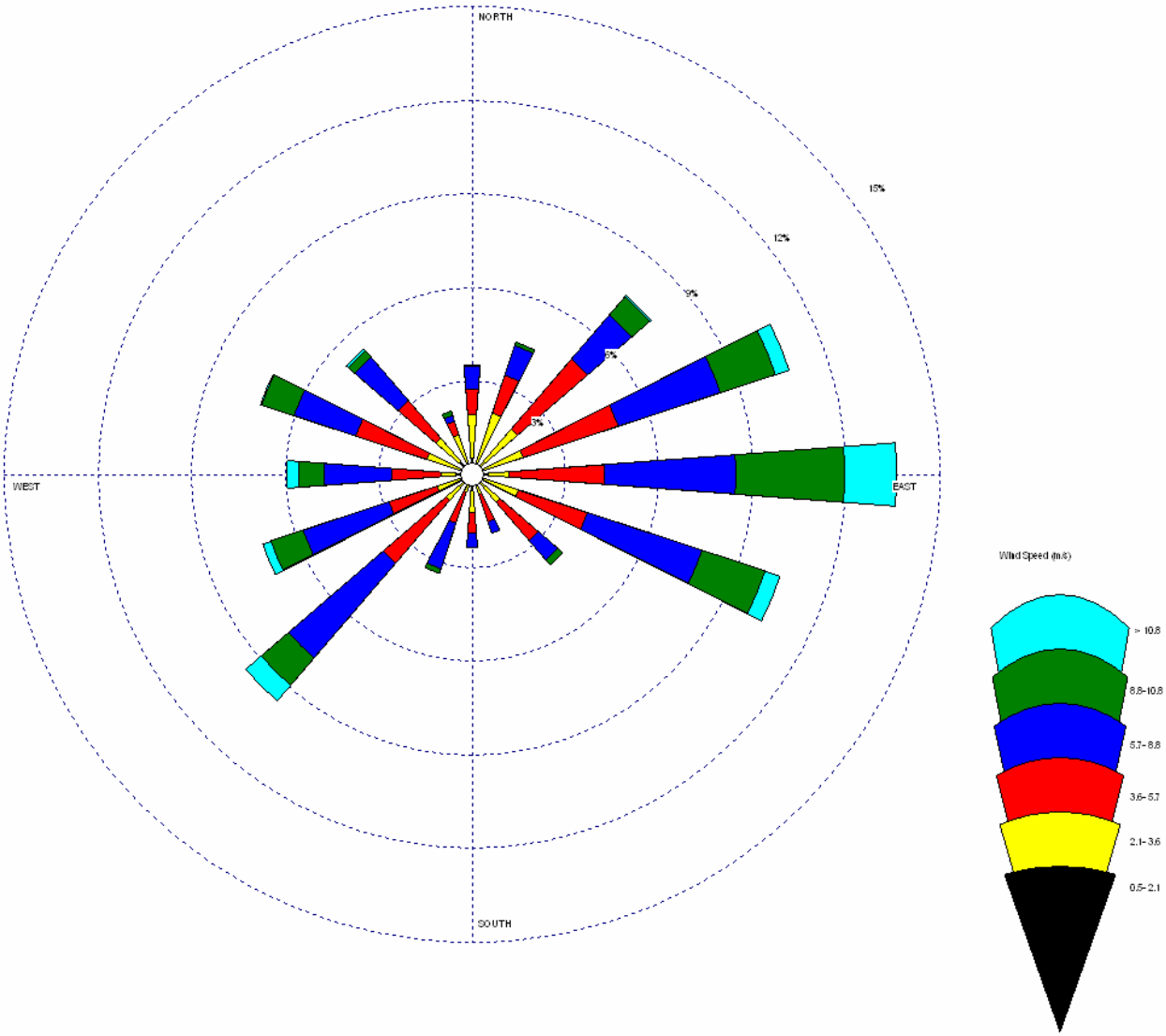
Site	Milne Point
Date	Composite of all June data 2001-2005
Company	MMS
Unit	M/S



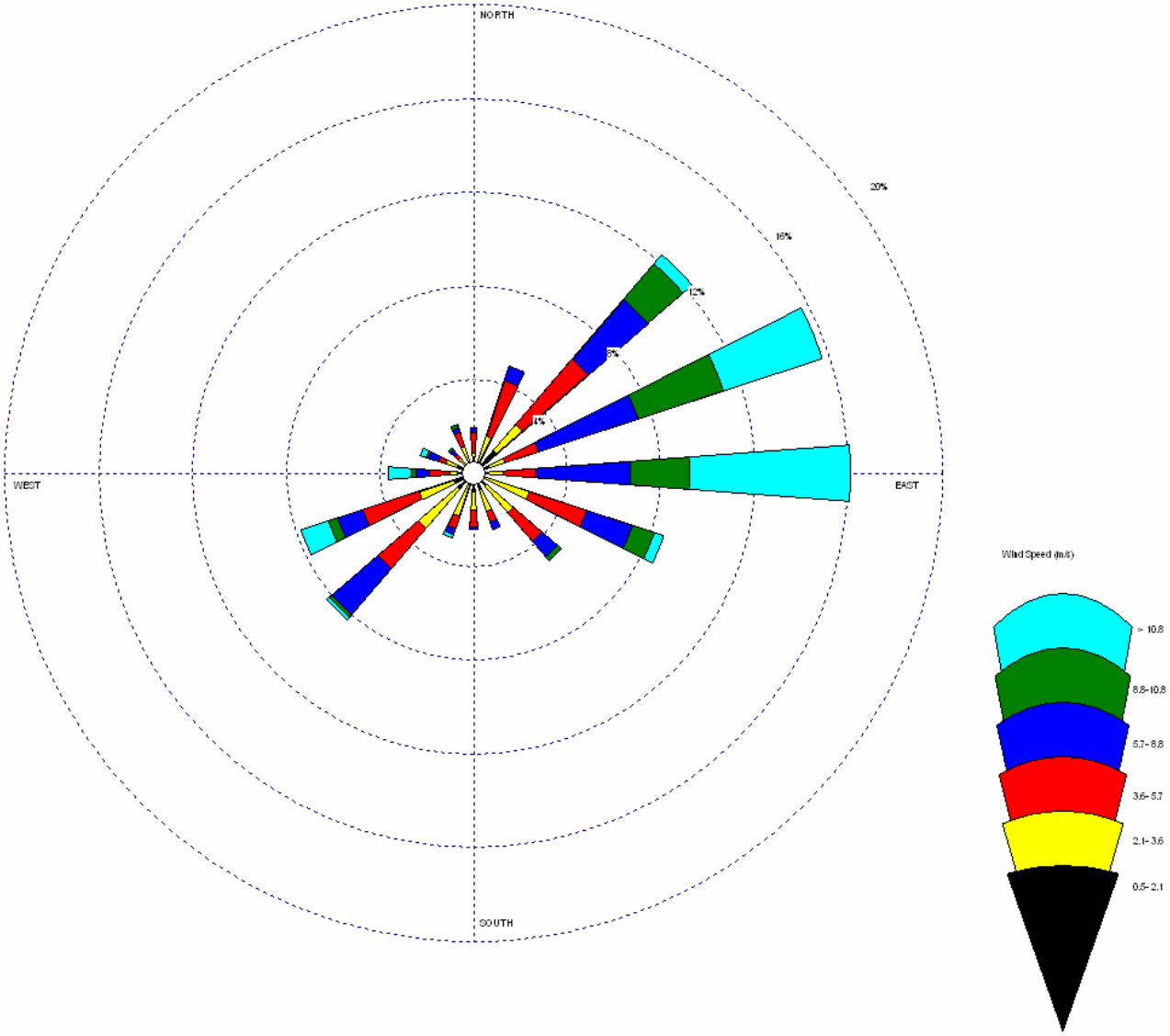
Site	Milne Point
Date	Composite of all July data 2001-2004
Company	MMS
Unit	M/S



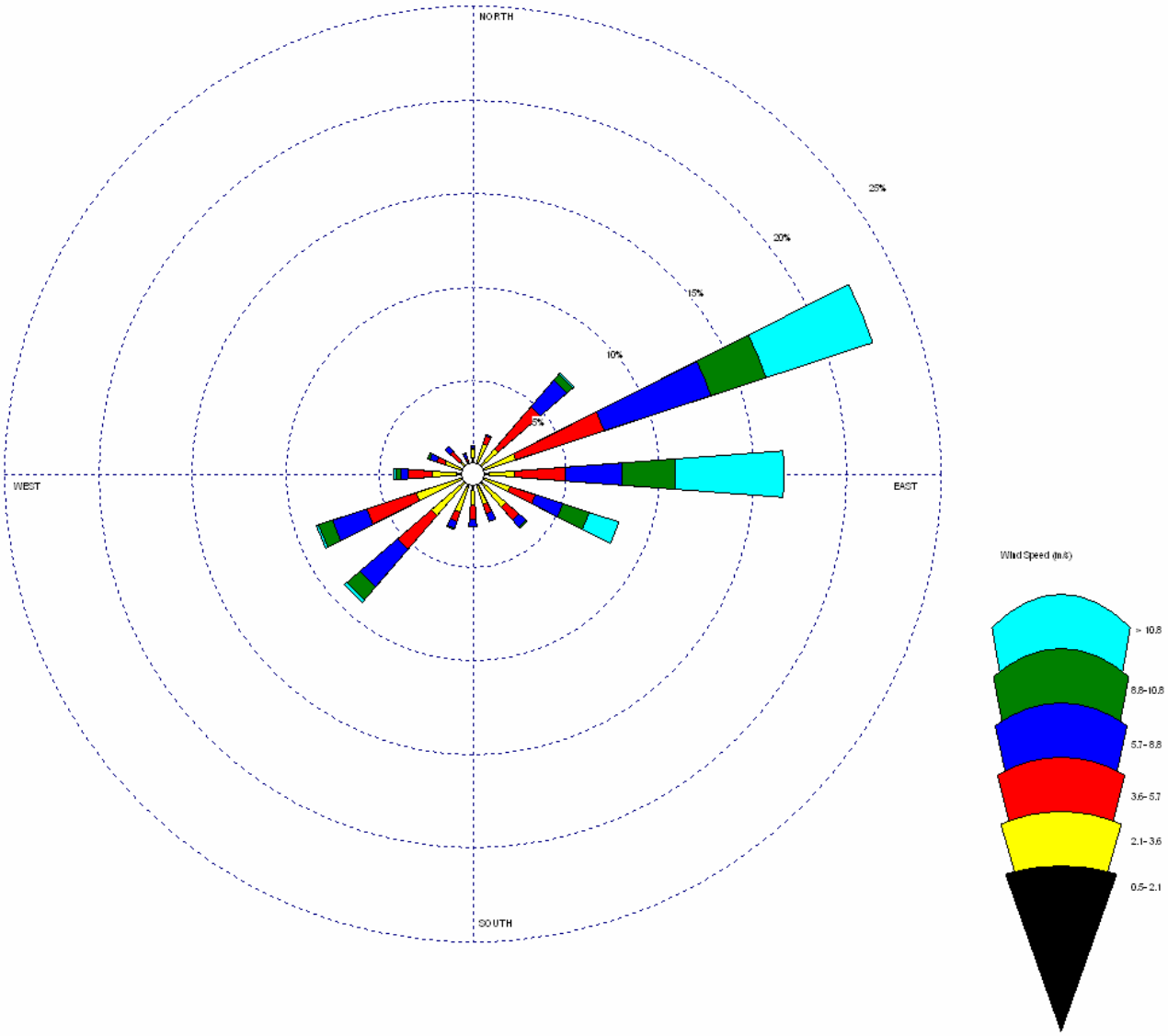
Site	Milne Point
Date	Composite of all August data 2001-2004
Company	MMS
Unit	M/S



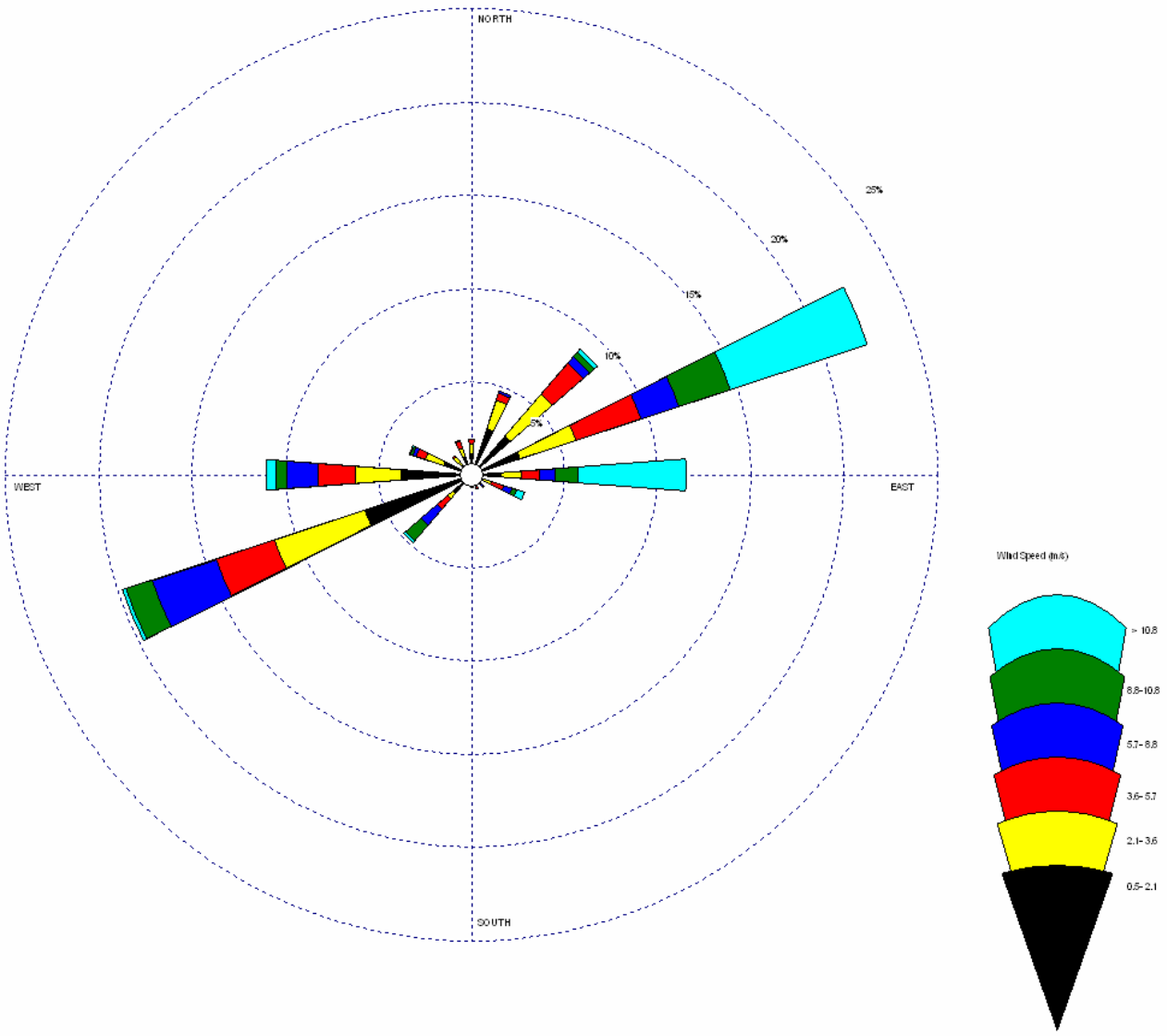
Site	Milne Point
Date	Composite of all September data 2001-2004
Company	MMS
Unit	M/S



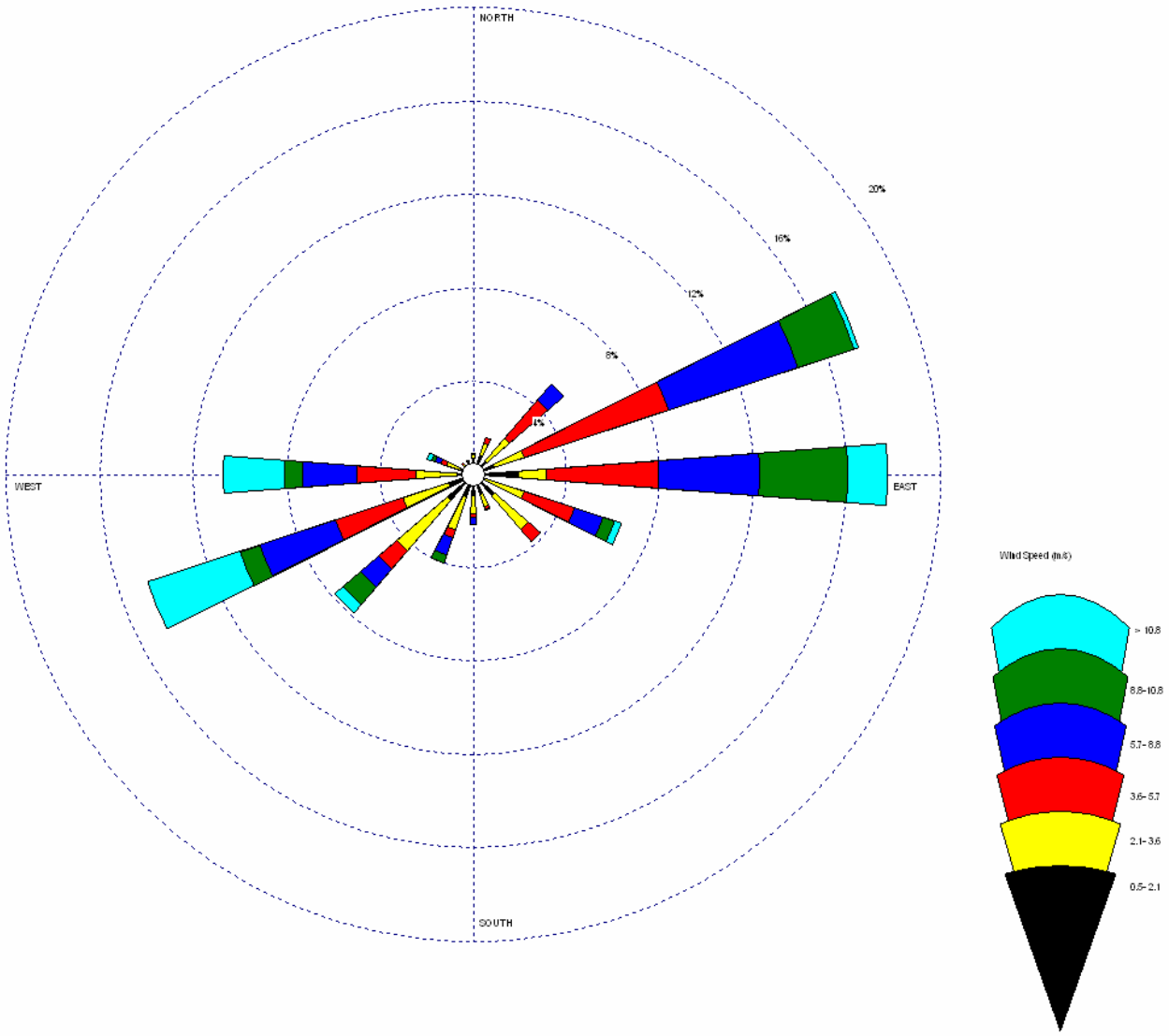
Site	Milne Point
Date	Composite of all October data 2001-2004
Company	MMS
Unit	M/S



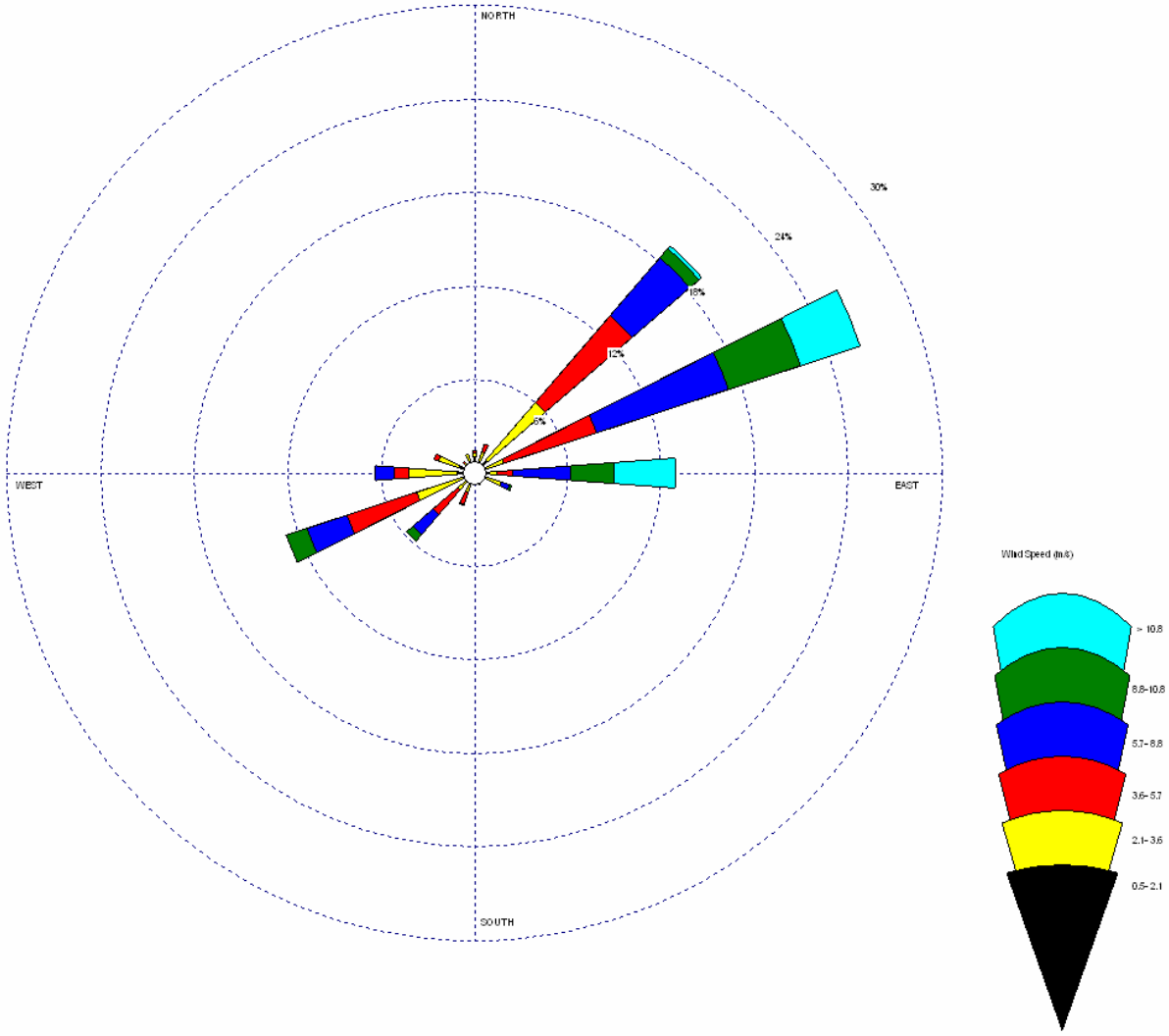
Site	Milne Point
Date	Composite of all November data 2002-2004
Company	MMS
Unit	M/S



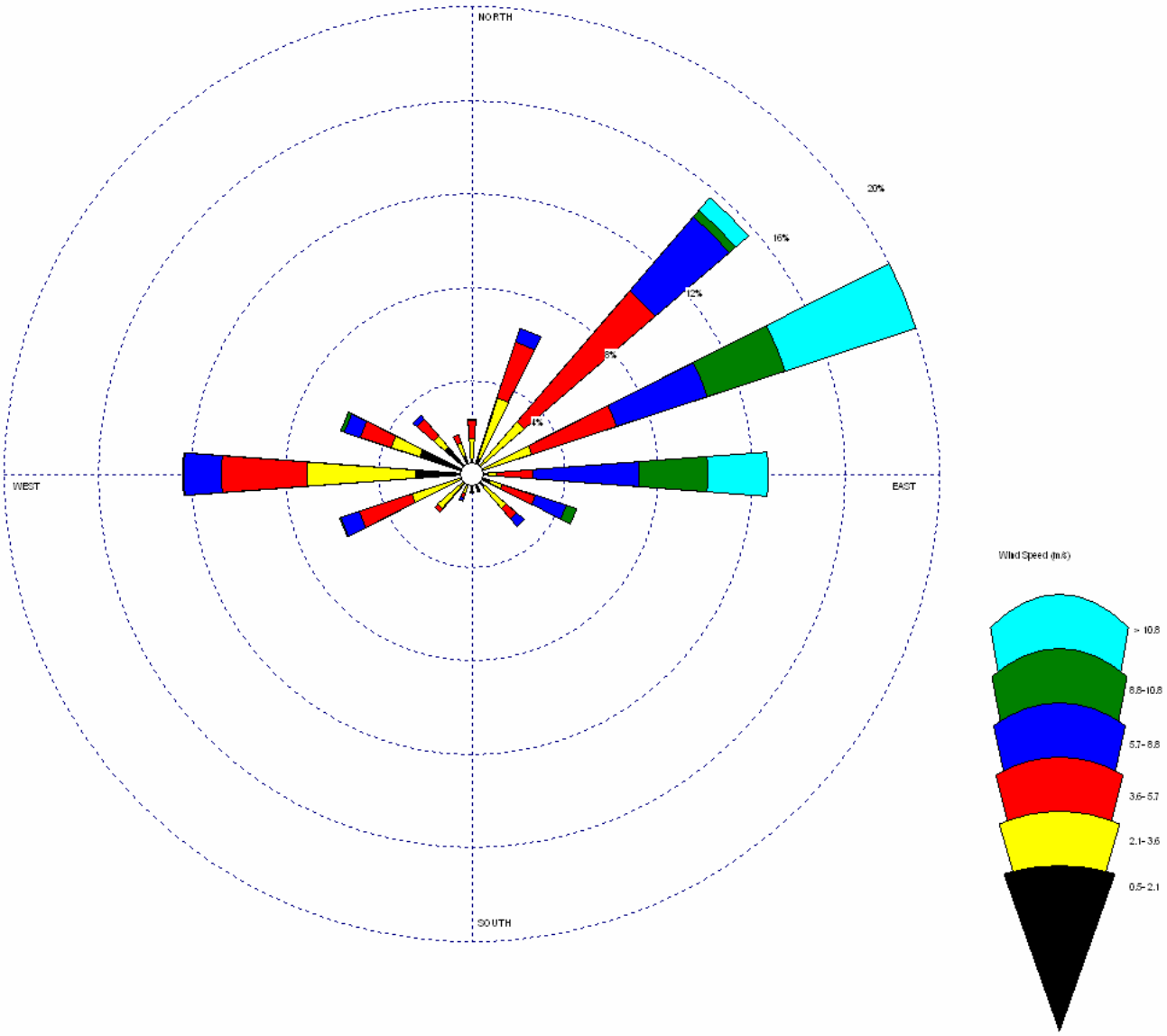
Site	Milne Point
Date	Composite of all December data 2001-2004
Company	MMS
Unit	M/S



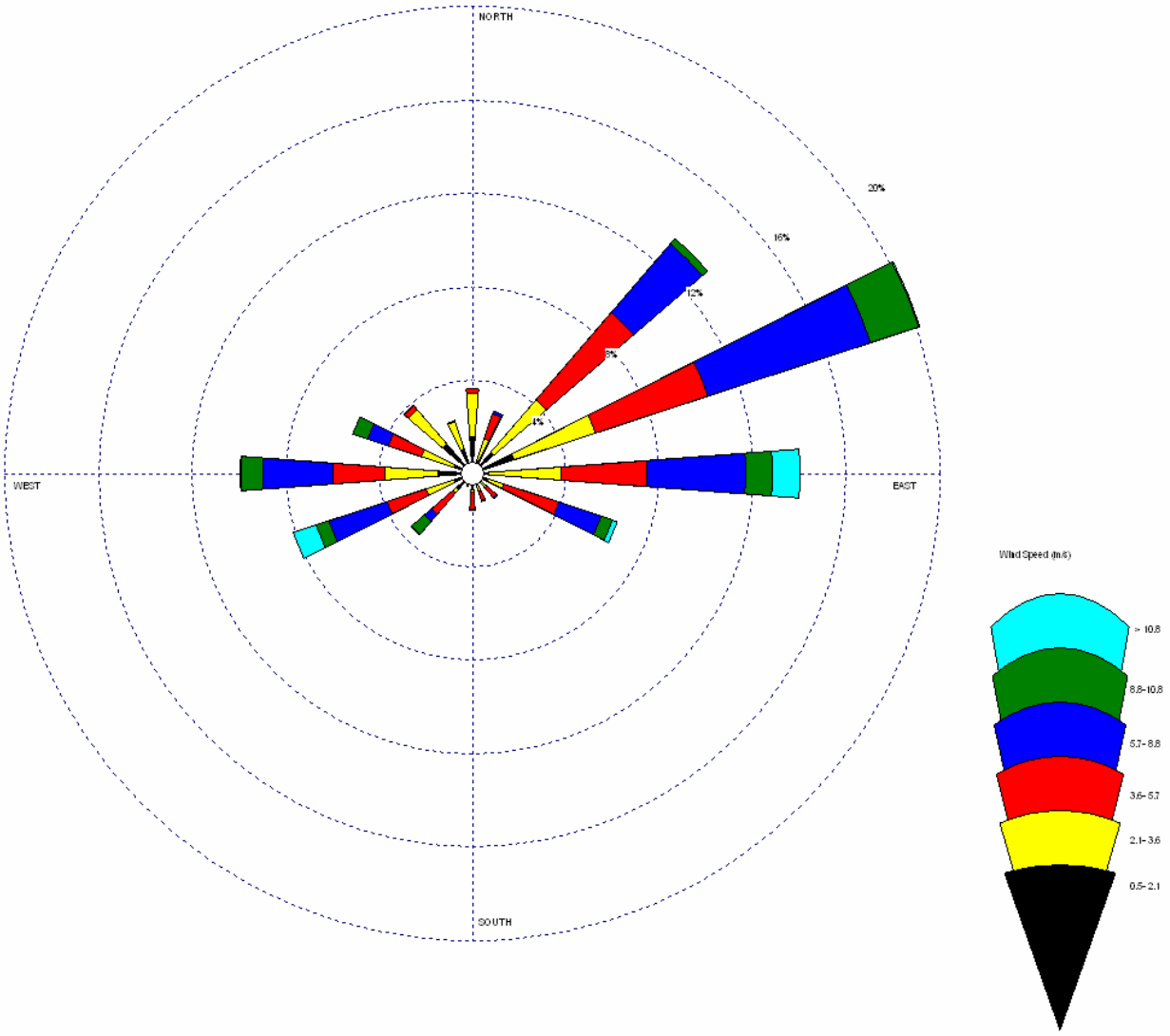
Site	Cottle Island
Date	Composite of all January data 2003-2005
Company	MMS
Unit	M/S



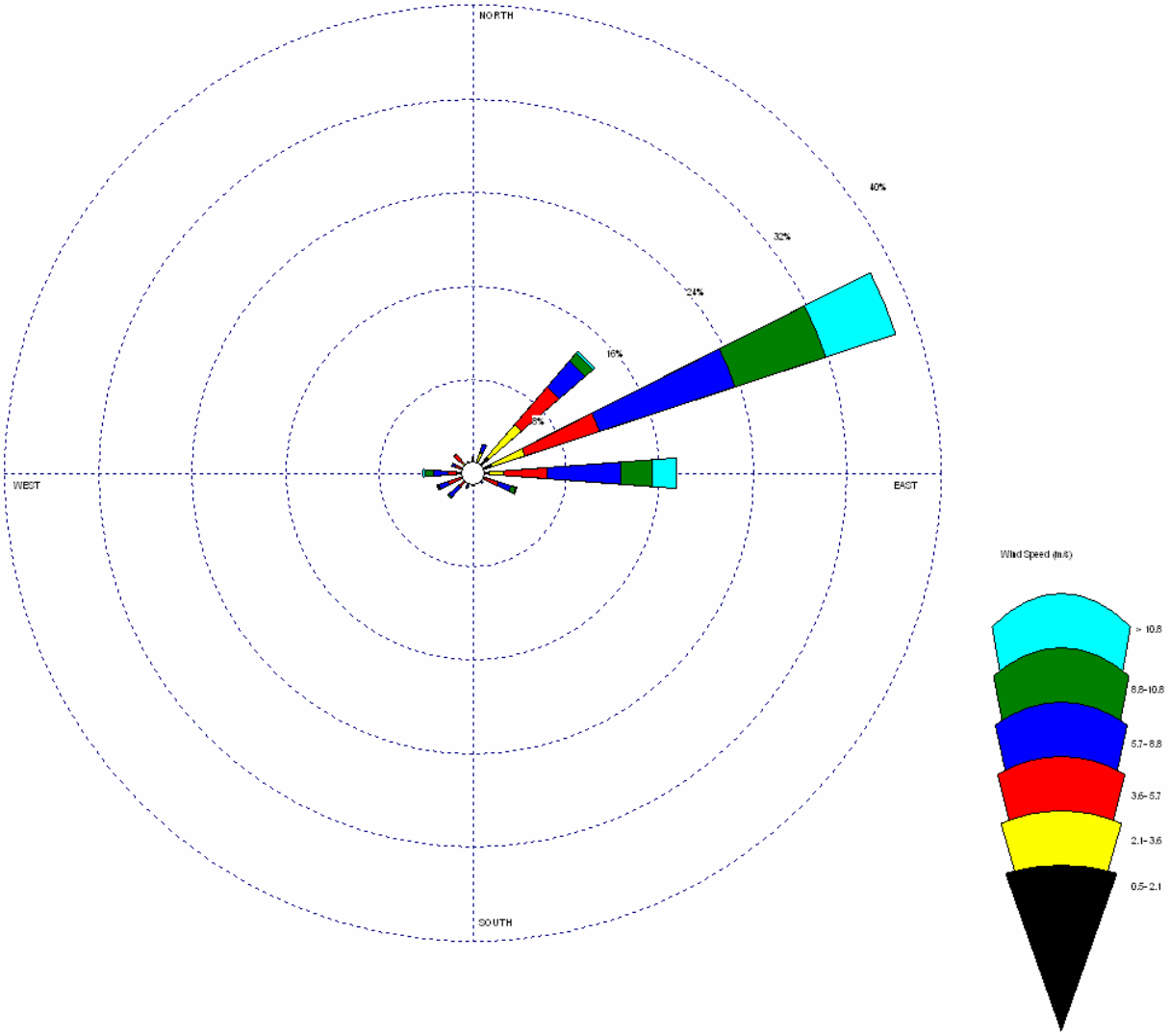
Site	Cottle Island
Date	Composite of all February data 2003-2005
Company	MMS
Unit	M/S



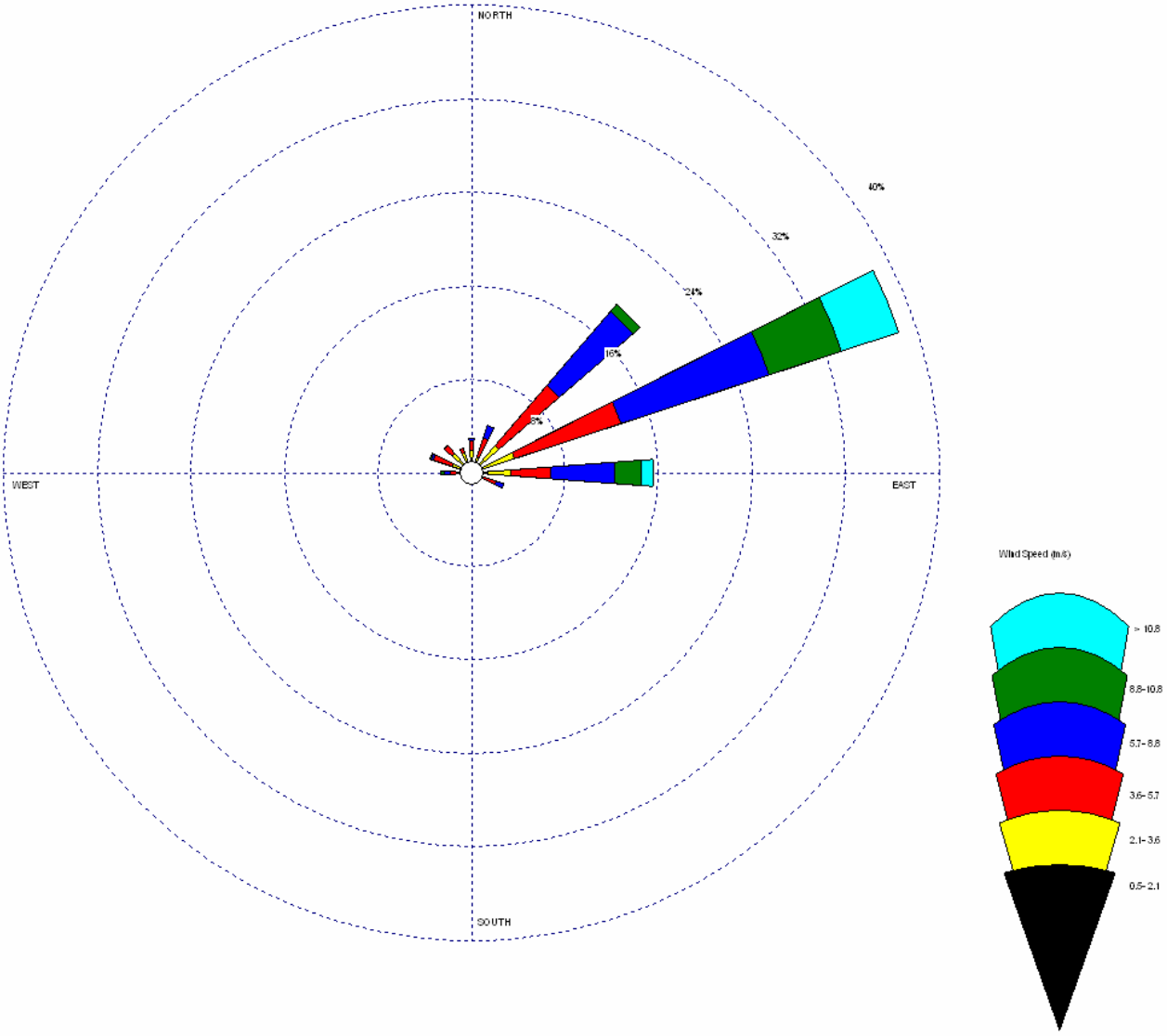
Site	Cottle Island
Date	Composite of all March data 2003-2005
Company	MMS
Unit	M/S



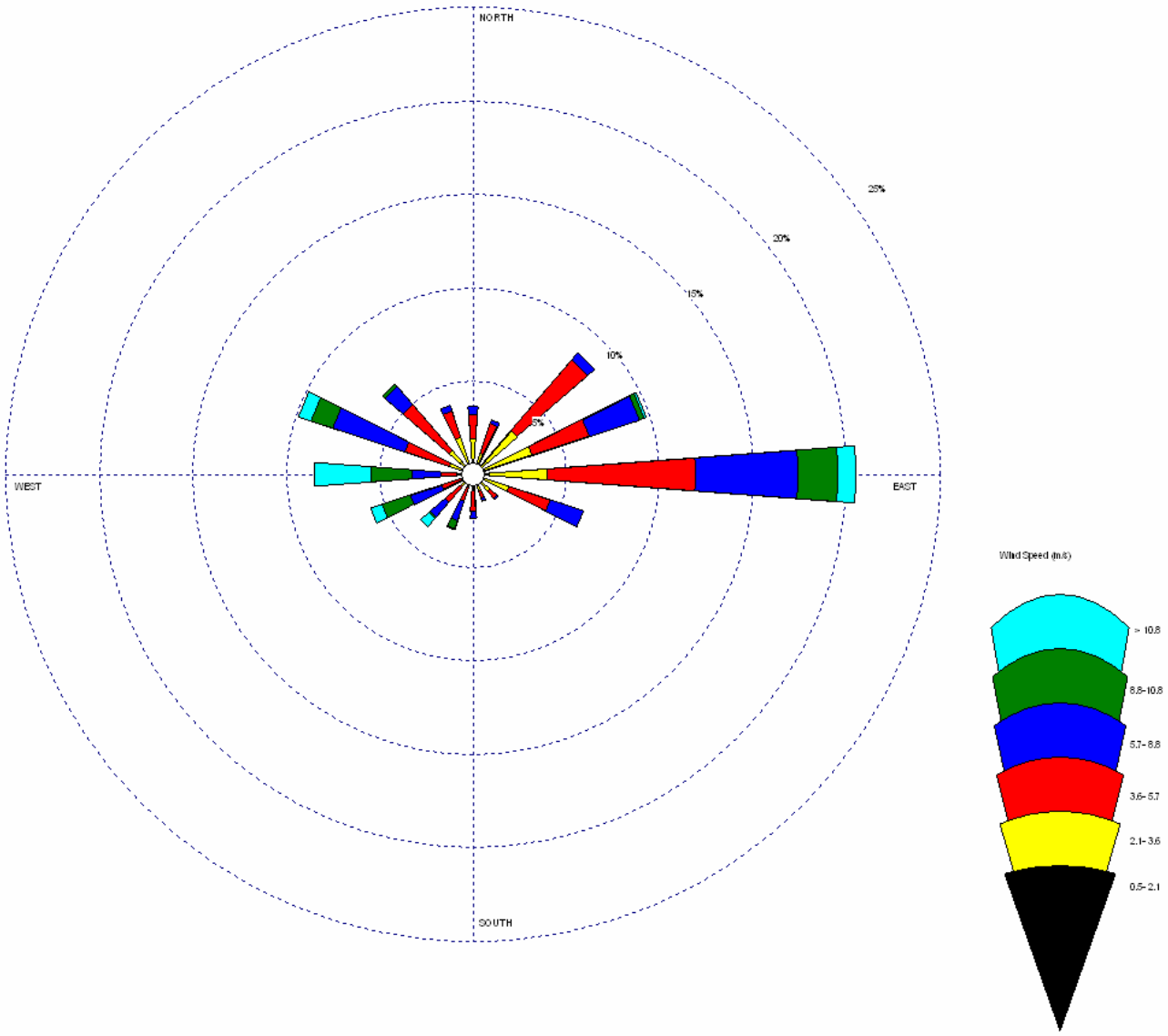
Site	Cottle Island
Date	Composite of all April data 2003-2005
Company	MMS
Unit	M/S



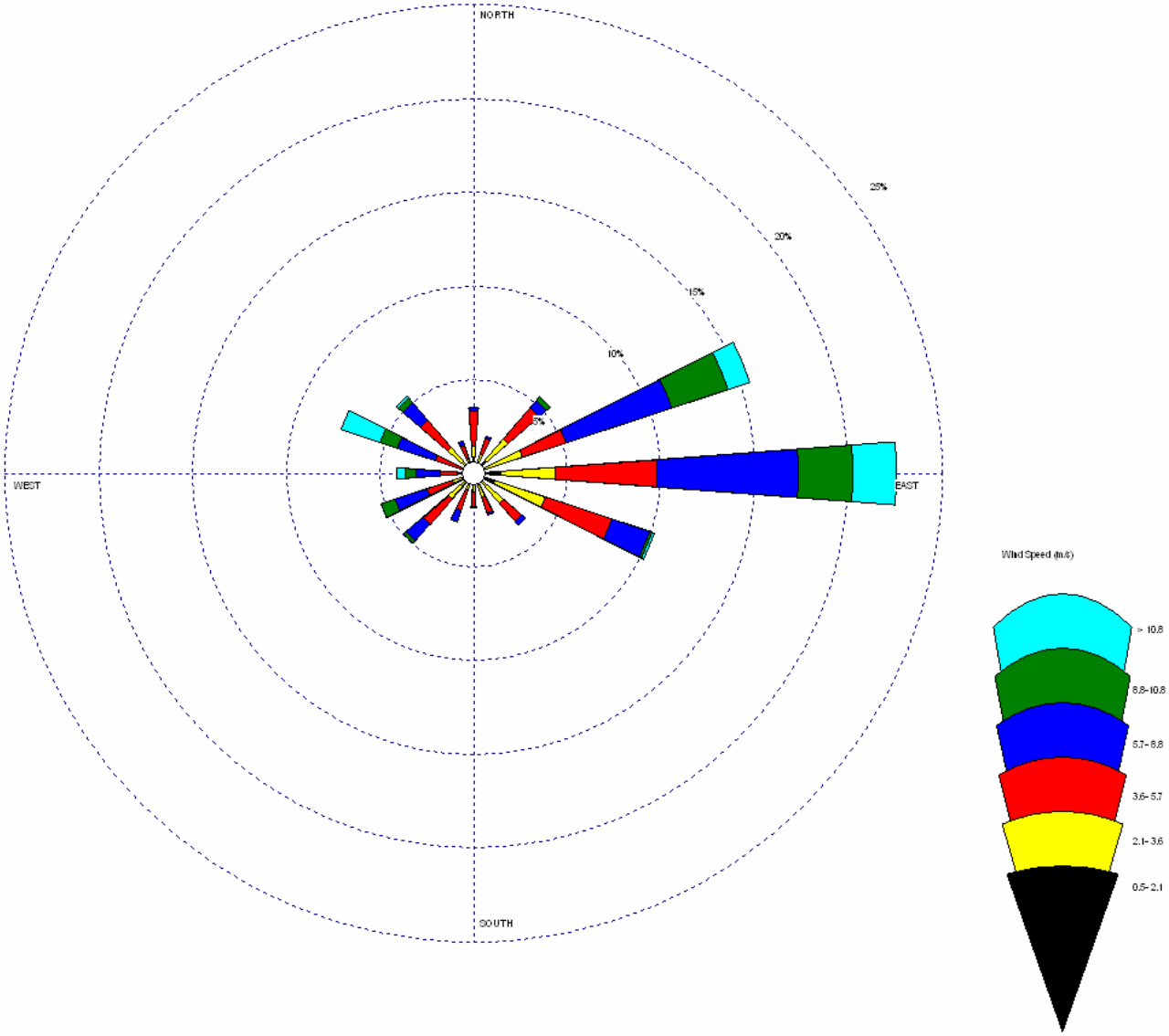
Site	Cottle Island
Date	Composite of all May data 2003-2005
Company	MMS
Unit	M/S



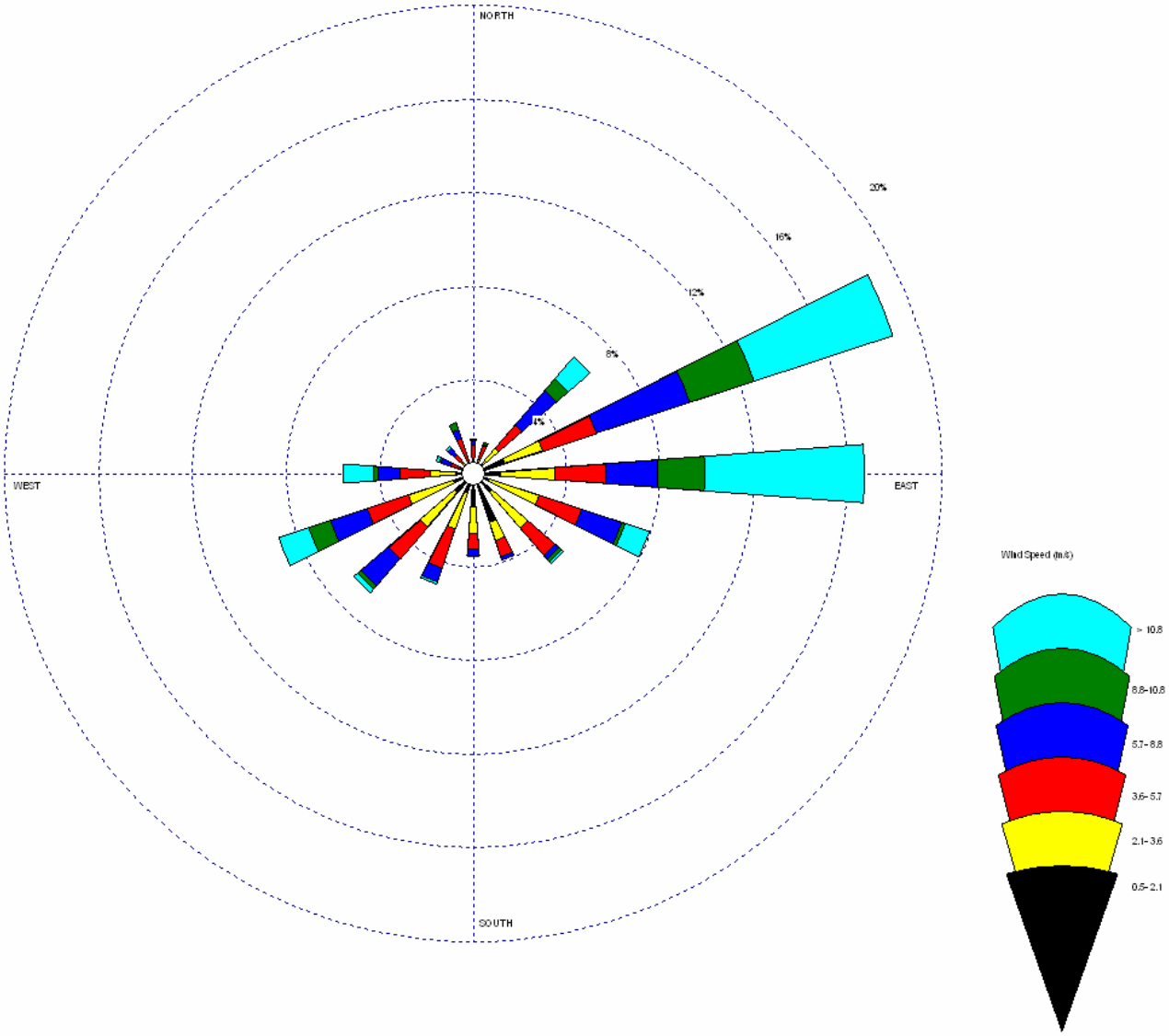
Site	Cottle Island
Date	Composite of all June data 2003-2005
Company	MMS
Unit	M/S



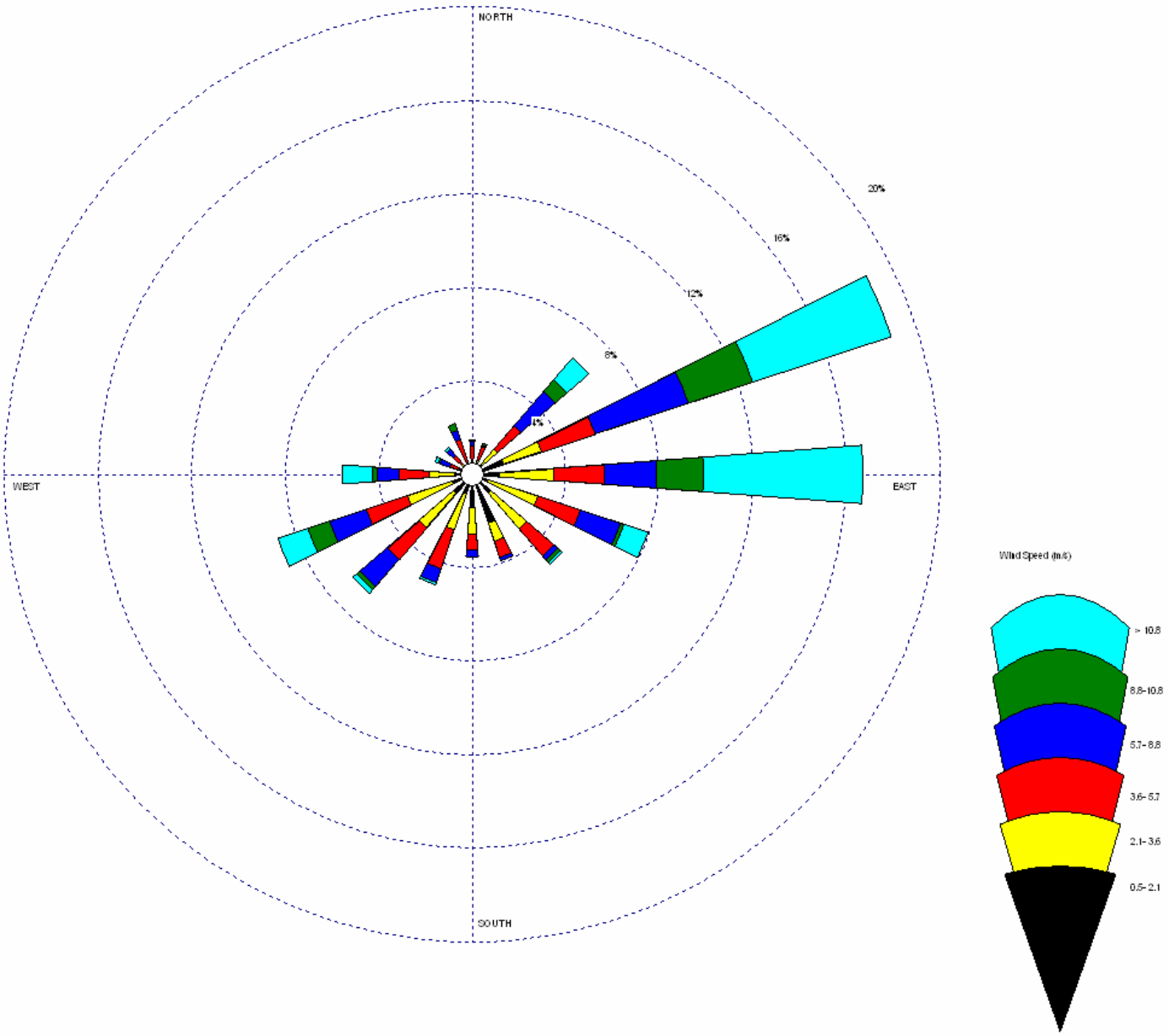
Site	Cottle Island
Date	Composite of all July data 2003-2004
Company	MMS
Unit	M/S



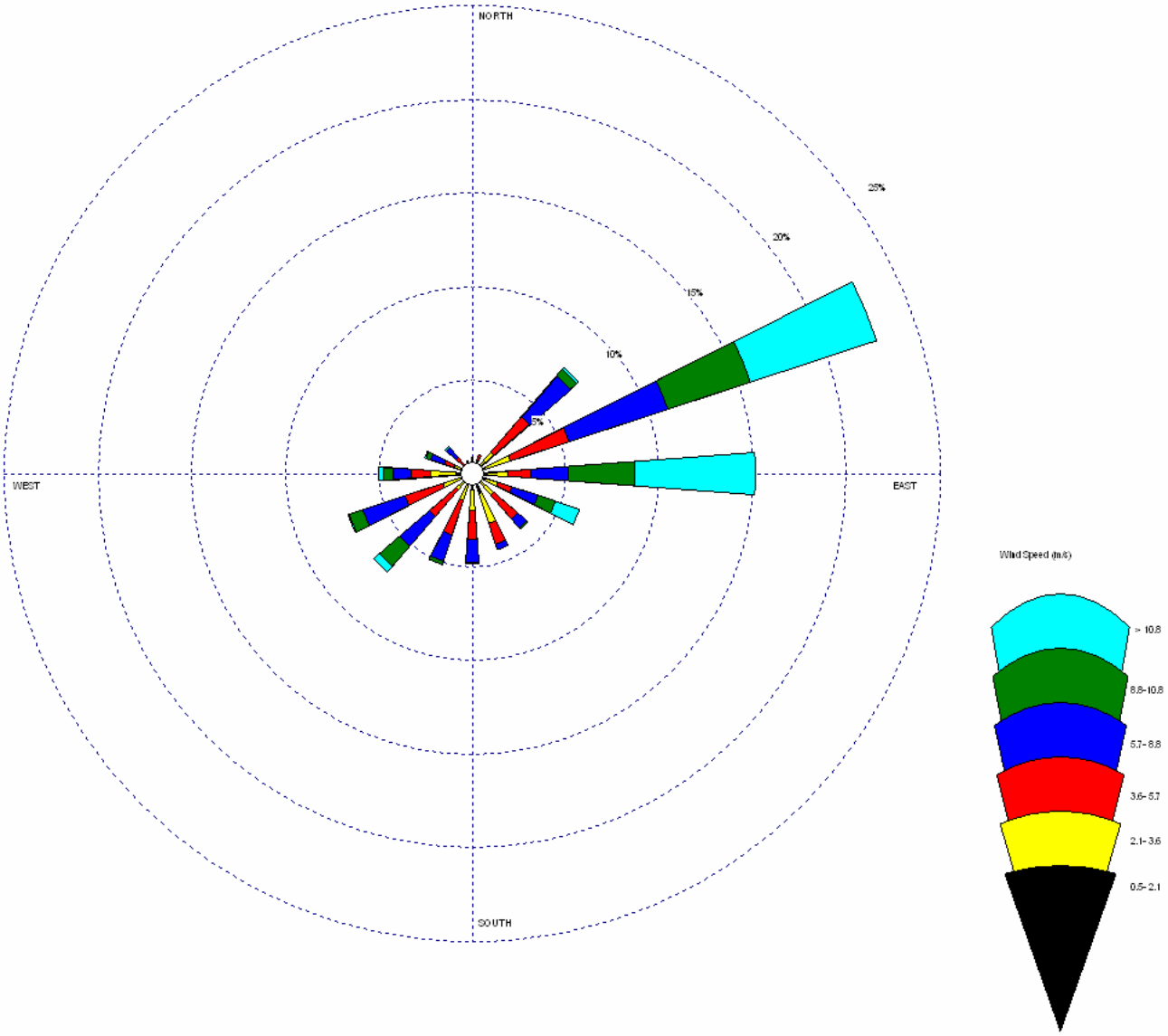
Site	Cottle Island
Date	Composite of all August data 2002-2004
Company	MMS
Unit	M/S



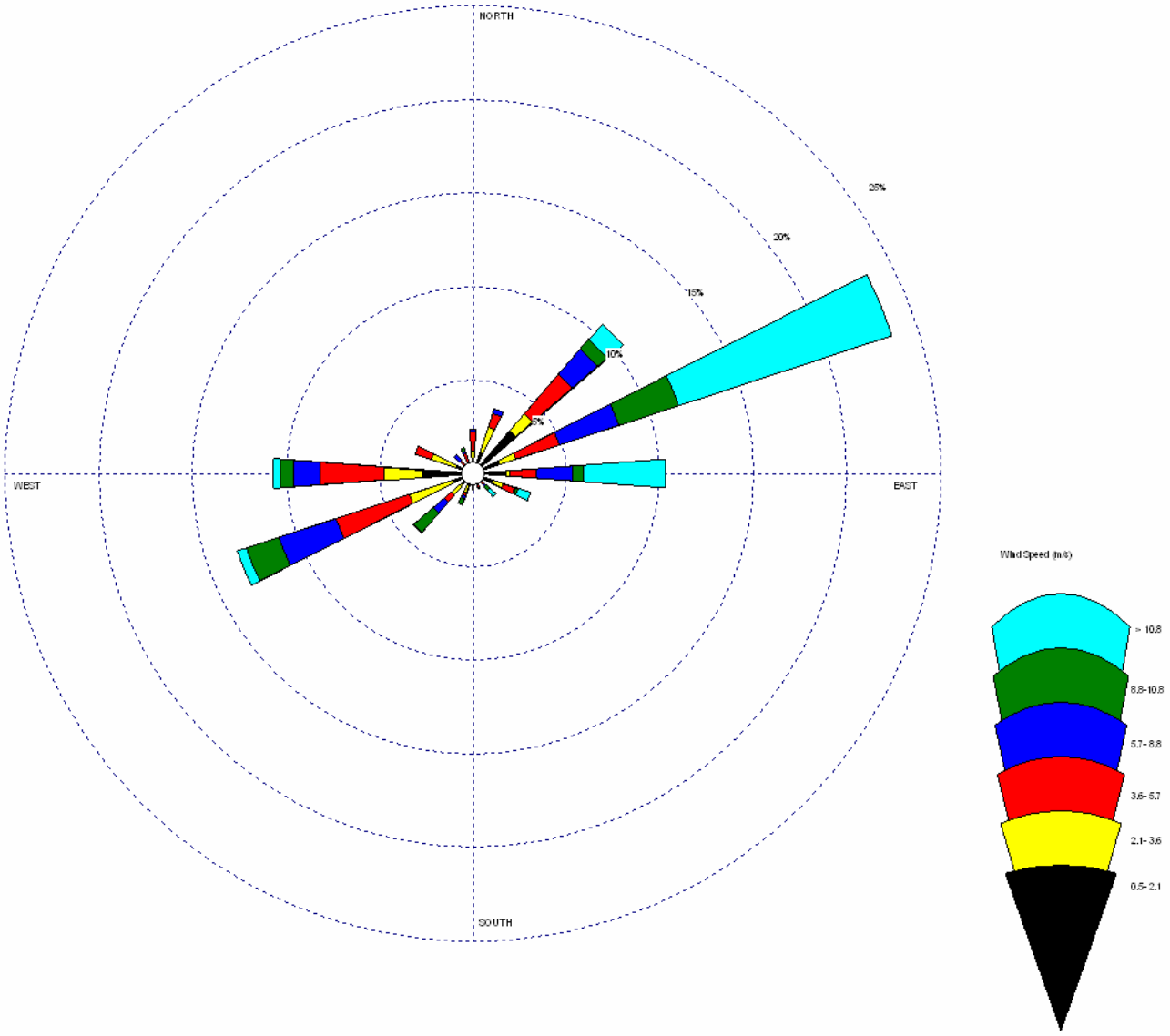
Site	Cottle Island
Date	Composite of all September data 2002-2004
Company	MMS
Unit	M/S



Site	Cottle Island
Date	Composite of all October data 2002-2004
Company	MMS
Unit	M/S



Site	Cottle Island
Date	Composite of all November data 2002-2004
Company	MMS
Unit	M/S



Site	Cottle Island
Date	Composite of all December data 2002-2004
Company	MMS
Unit	M/S

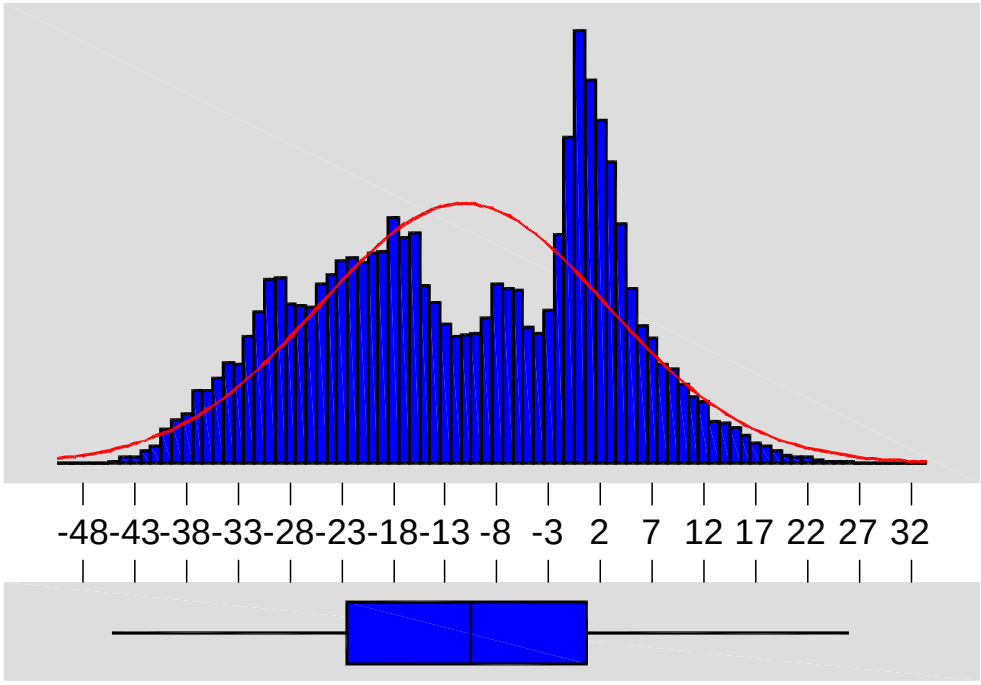
APPENDIX D

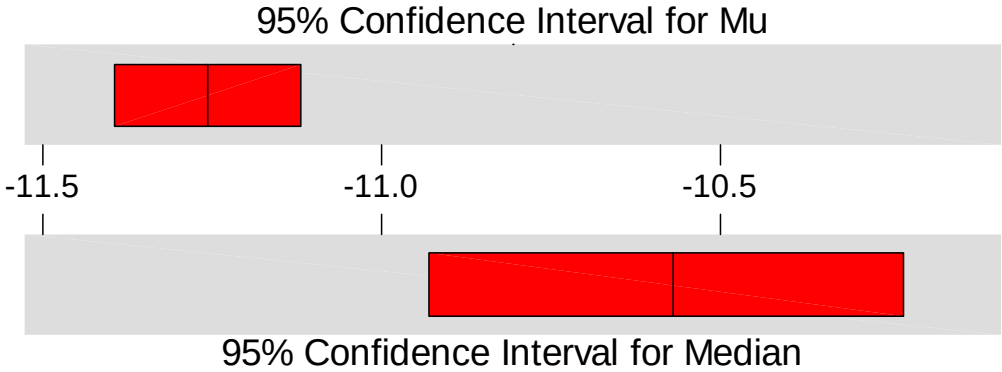
Descriptive Statistics

List of Abbreviations:

BAD	Badami
COT	Cottle Island
END	Endicott
MPU	Milne Point Unit
NOR	Northstar
Pres	Barometric pressure
RH	Relative humidity
Solar	Solar radiation
StDev	Standard deviation
T Ice	Temperatures from November through May (closed sea ice period)
T OW	Temperatures from June through October (open sea water period)
Temp	Temperature
WS	Wind speed
WSig	Wind sigma, the standard deviation of the wind direction

Descriptive Statistics





Variable: BAD Temp

Anderson-Darling Normality Test

A-Squared:	453.798
P-Value:	0.000
Mean	-11.2565
StDev	13.9277
Variance	193.980
Skewness	-1.2E-01
Kurtosis	-1.0E+00
N	39276
Minimum	-45.2800
1st Quartile	-22.5900
Median	-10.5700
3rd Quartile	0.6150
Maximum	26.0500

95% Confidence Interval for Mu

-11.3943	-11.1188

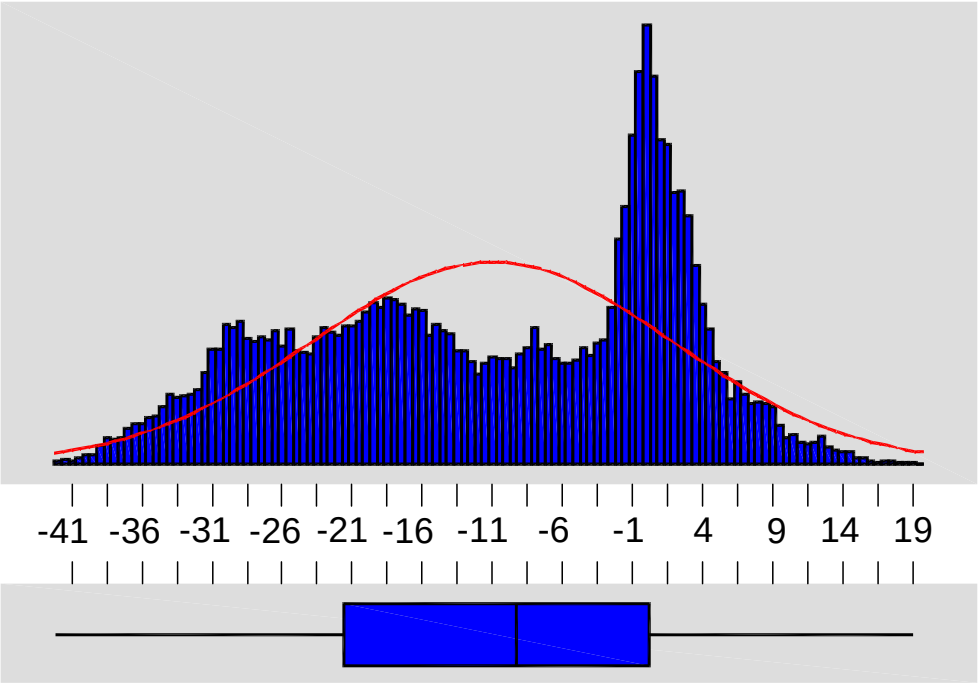
95% Confidence Interval for Sigma

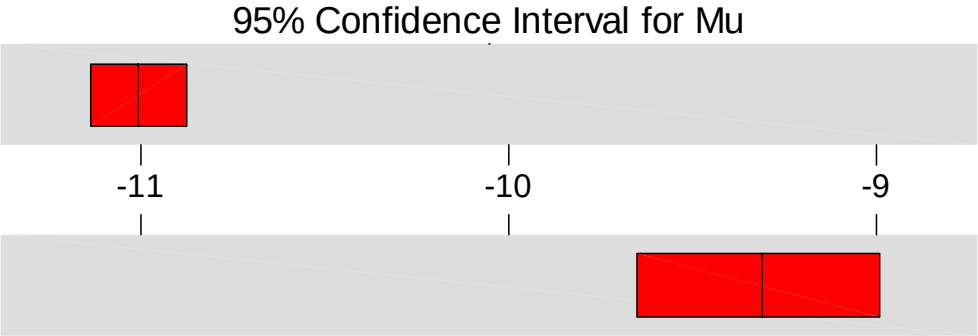
13.8309	14.0257

95% Confidence Interval for Median

-10.9300	-10.2300

Descriptive Statistics





Variable: END Temp

Anderson-Darling Normality Test

A-Squared:	698.458
P-Value:	0.000
Mean	-11.0055
StDev	12.8443
Variance	164.975
Skewness	-2.7E-01
Kurtosis	-1.08878
N	36767
Minimum	-42.1600
1st Quartile	-21.6200
Median	-9.3100
3rd Quartile	0.2050
Maximum	19.0900

95% Confidence Interval for Mu

-11.1368	-10.8743

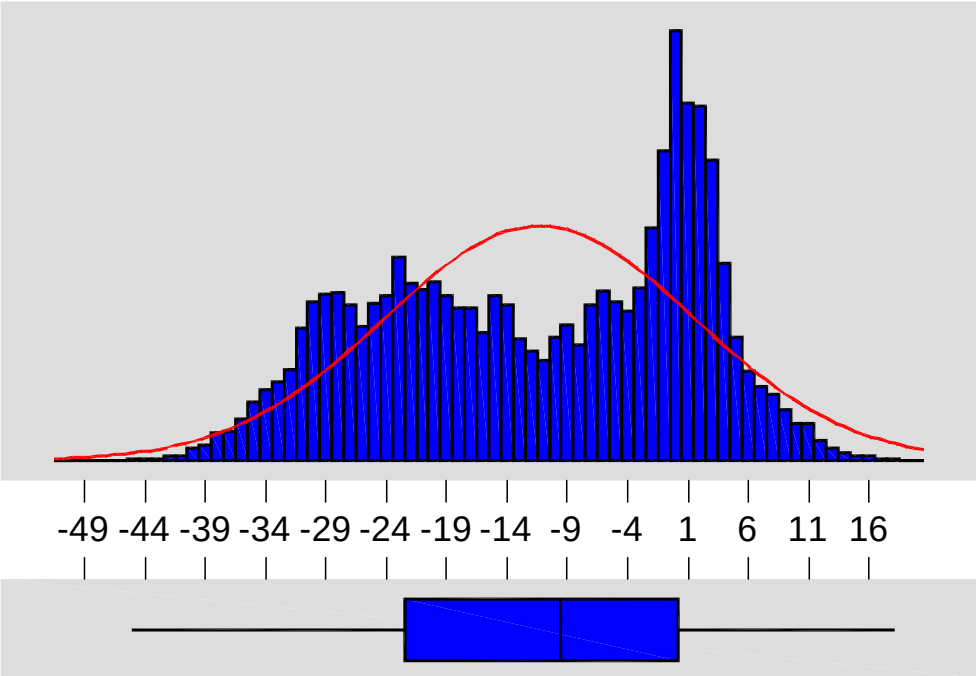
95% Confidence Interval for Sigma

12.7521	12.9378

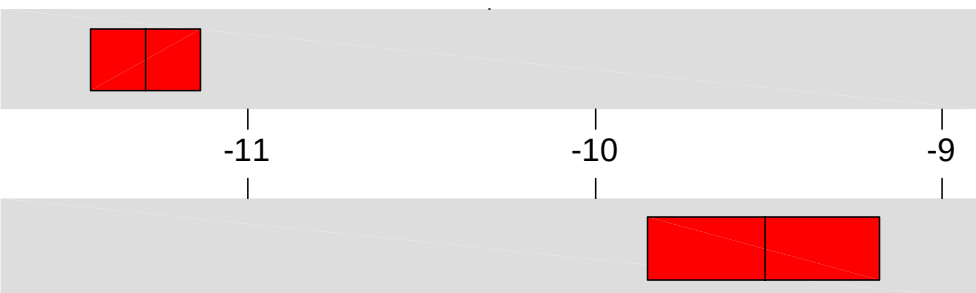
95% Confidence Interval for Median

-9.6500	-8.9900

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: COT Temp

Anderson-Darling Normality Test

A-Squared:	482.285
P-Value:	0.000
Mean	-11.2976
StDev	12.8197
Variance	164.344
Skewness	-2.5E-01
Kurtosis	-1.14020
N	25049
Minimum	-45.1300
1st Quartile	-22.4400
Median	-9.5100
3rd Quartile	0.1675
Maximum	18.1700

95% Confidence Interval for Mu

-11.4564	-11.1389

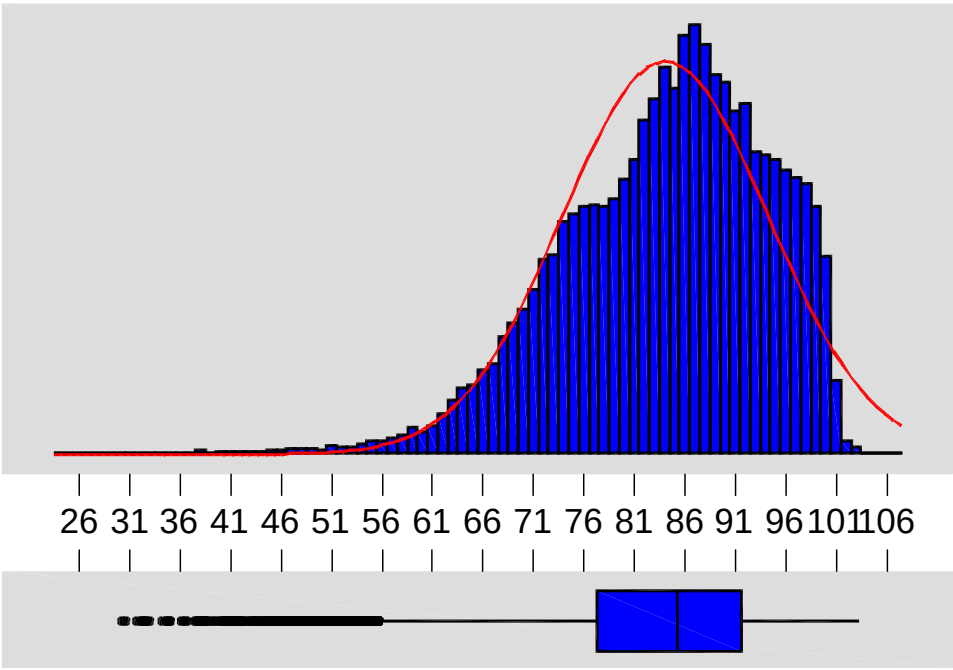
95% Confidence Interval for Sigma

12.7084	12.9329

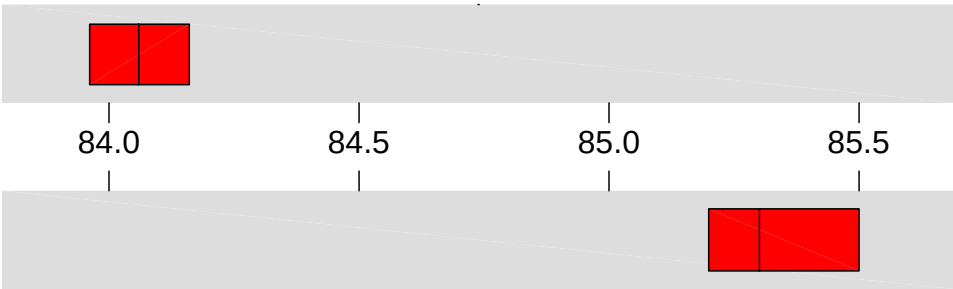
95% Confidence Interval for Median

-9.8500	-9.1800

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: BAD RH

Anderson-Darling Normality Test

A-Squared:	225.278
P-Value:	0.000
Mean	84.0609
StDev	10.2044
Variance	104.129
Skewness	-6.8E-01
Kurtosis	0.543694
N	39187
Minimum	30.210
1st Quartile	77.300
Median	85.300
3rd Quartile	91.700
Maximum	103.300

95% Confidence Interval for Mu

83.960	84.162

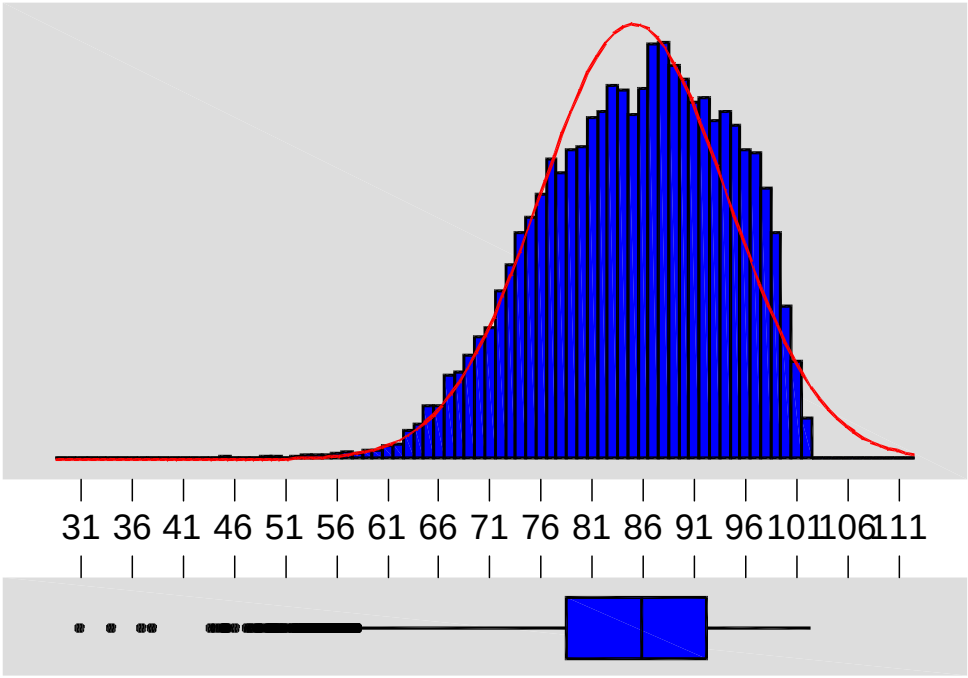
95% Confidence Interval for Sigma

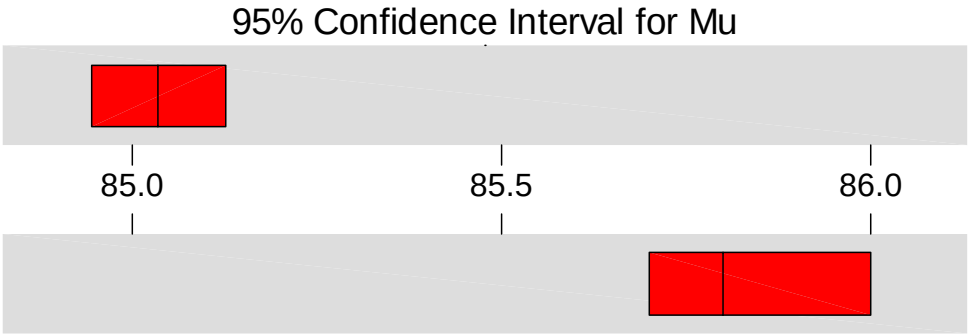
10.133	10.276

95% Confidence Interval for Median

85.200	85.500

Descriptive Statistics





Variable: MPU RH

Anderson-Darling Normality Test

A-Squared:	155.234
P-Value:	0.000
Mean	85.0346
StDev	9.1533
Variance	83.7822
Skewness	-4.2E-01
Kurtosis	-1.9E-01
N	38397
Minimum	30.810
1st Quartile	78.500
Median	85.800
3rd Quartile	92.200
Maximum	102.400

95% Confidence Interval for Mu

84.943	85.126

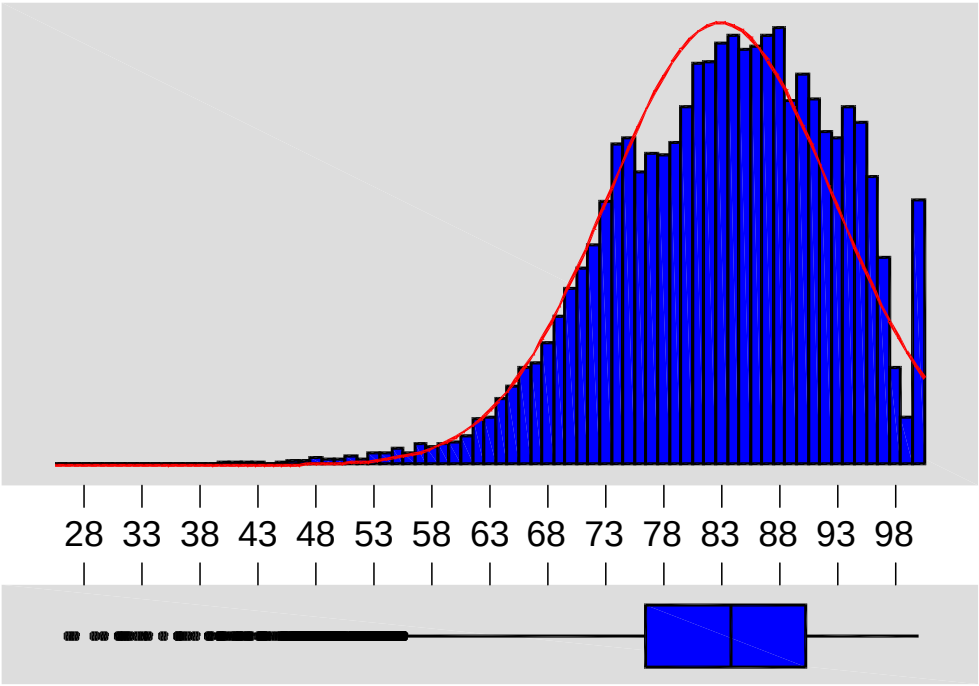
95% Confidence Interval for Sigma

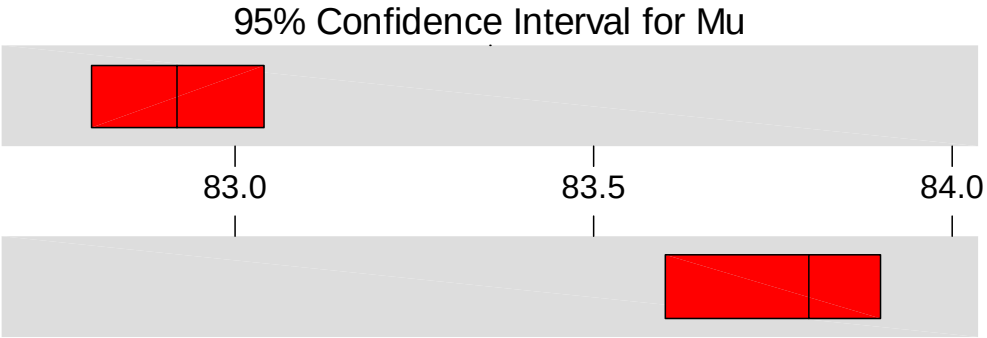
9.089	9.218

95% Confidence Interval for Median

85.700	86.000

Descriptive Statistics





Variable: COT RH

Anderson-Darling Normality Test

A-Squared:	93.381
P-Value:	0.000
Mean	82.9191
StDev	9.7360
Variance	94.7901
Skewness	-6.2E-01
Kurtosis	0.659521
N	25021
Minimum	26.600
1st Quartile	76.400
Median	83.800
3rd Quartile	90.300
Maximum	100.000

95% Confidence Interval for Mu

82.798	83.040

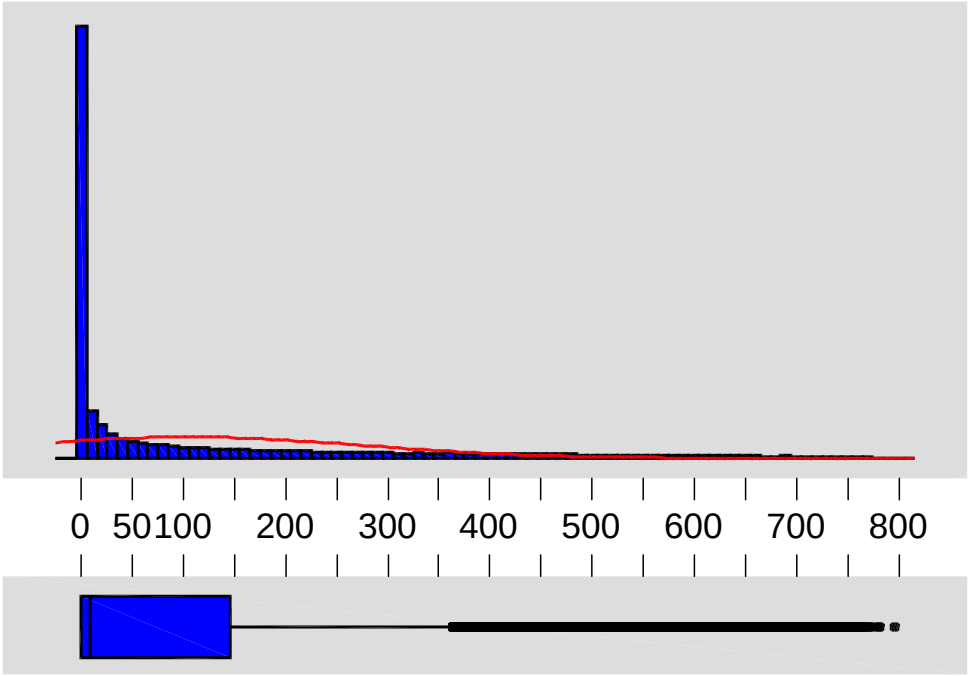
95% Confidence Interval for Sigma

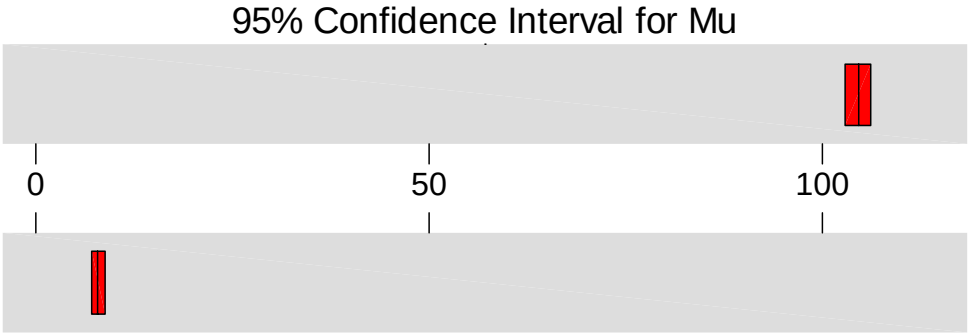
9.651	9.822

95% Confidence Interval for Median

83.600	83.900

Descriptive Statistics





Variable: BAD Solar

Anderson-Darling Normality Test

A-Squared:	5149.819
P-Value:	0.000
Mean	104.427
StDev	169.942
Variance	28880.2
Skewness	1.81501
Kurtosis	2.44153
N	39387
Minimum	0.000
1st Quartile	0.005
Median	7.780
3rd Quartile	145.300
Maximum	797.000

95% Confidence Interval for Mu

102.748	106.105

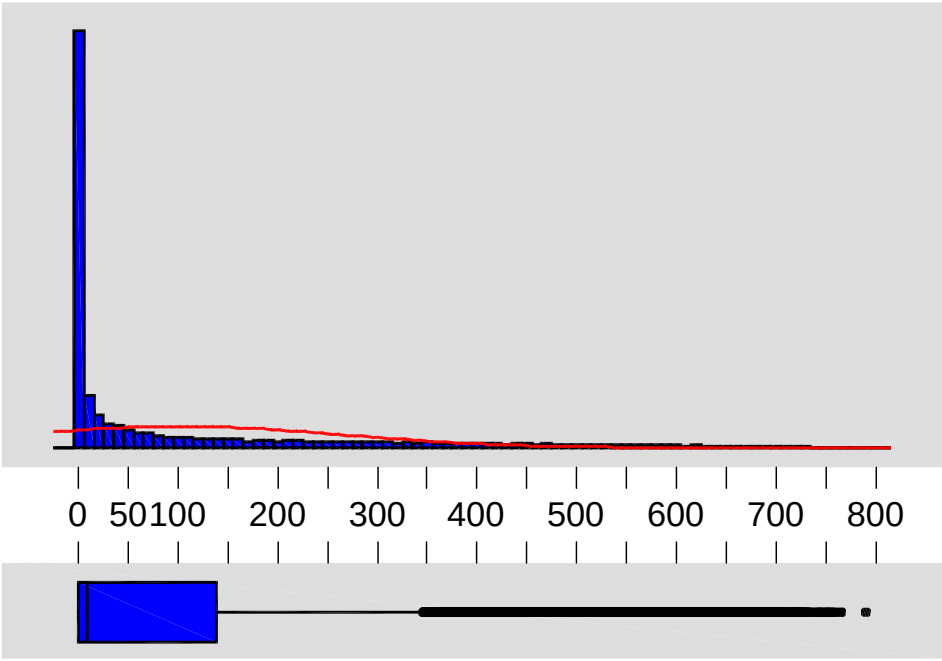
95% Confidence Interval for Sigma

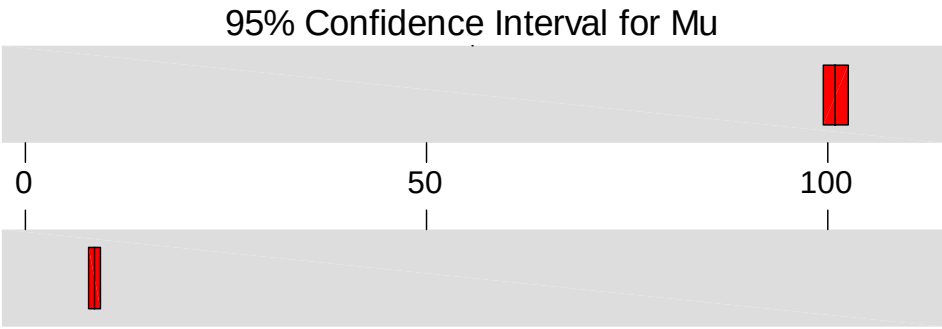
168.763	171.137

95% Confidence Interval for Median

6.981	8.690

Descriptive Statistics





Variable: END Solar

Anderson-Darling Normality Test

A-Squared:	5128.281
P-Value:	0.000
Mean	101.083
StDev	164.381
Variance	27021.1
Skewness	1.81147
Kurtosis	2.41765
N	39129
Minimum	0.000
1st Quartile	0.001
Median	8.560
3rd Quartile	138.700
Maximum	791.000

95% Confidence Interval for Mu

99.454	102.712

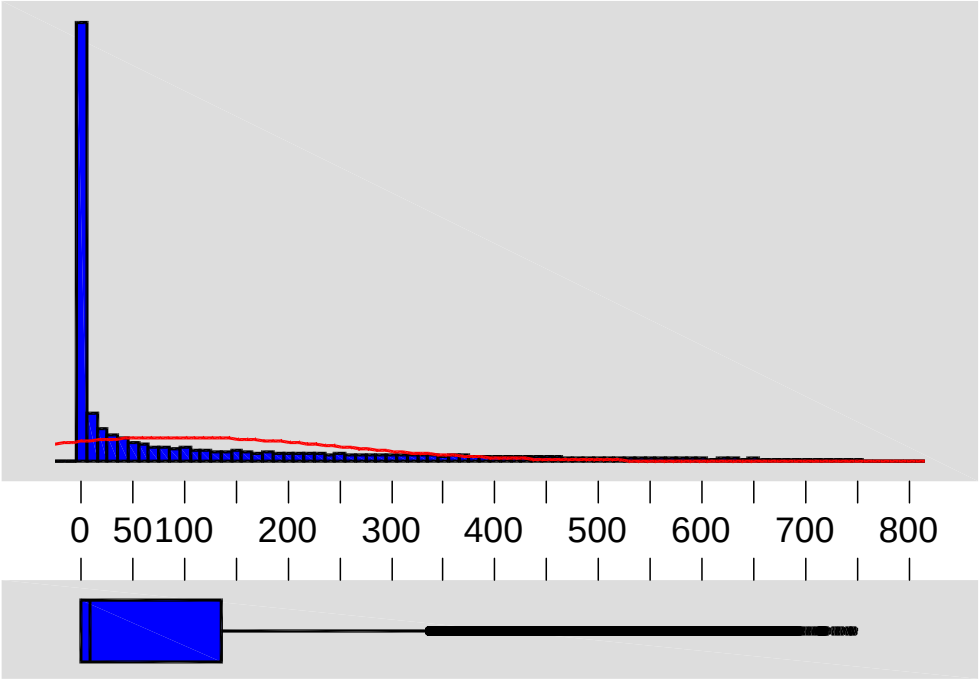
95% Confidence Interval for Sigma

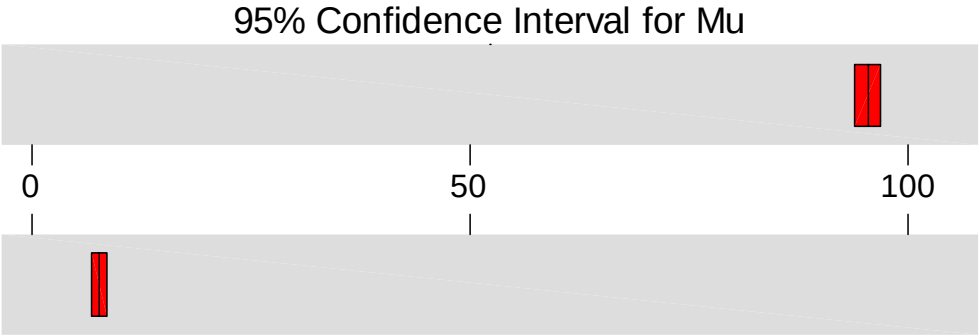
163.237	165.541

95% Confidence Interval for Median

7.820	9.350

Descriptive Statistics





Variable: MPU Solar

Anderson-Darling Normality Test

A-Squared:	5052.533
P-Value:	0.000
Mean	95.357
StDev	153.572
Variance	23584.3
Skewness	1.79176
Kurtosis	2.36440
N	39398
Minimum	0.000
1st Quartile	0.004
Median	7.615
3rd Quartile	135.125
Maximum	746.000

95% Confidence Interval for Mu

93.840	96.873

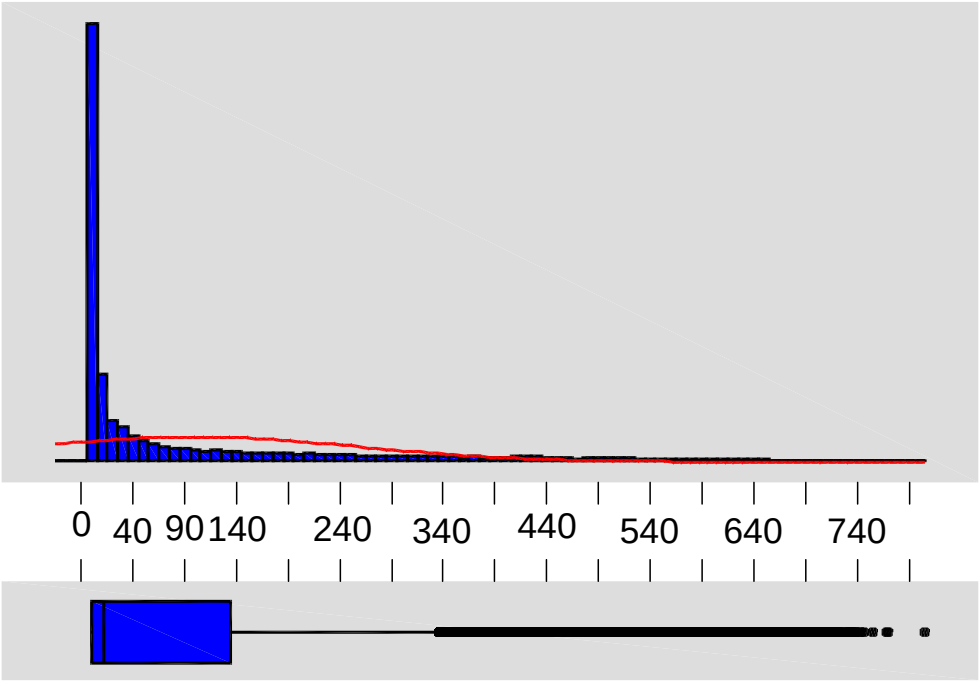
95% Confidence Interval for Sigma

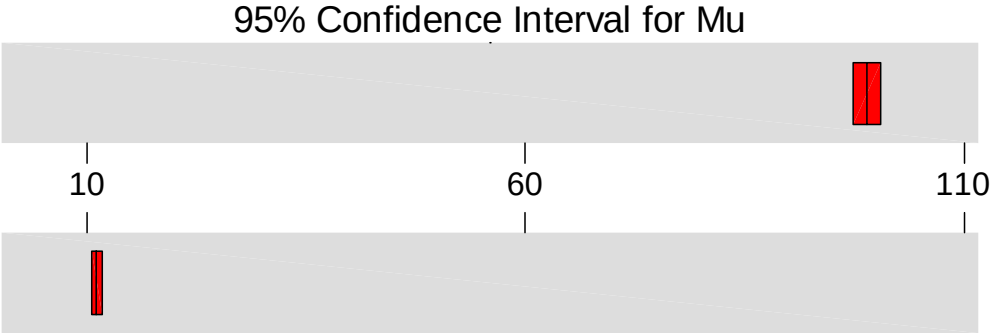
152.507	154.652

95% Confidence Interval for Median

6.753	8.510

Descriptive Statistics





Variable: NOR Solar

Anderson-Darling Normality Test

A-Squared:	5067.456
P-Value:	0.000
Mean	98.970
StDev	160.067
Variance	25621.5
Skewness	1.83028
Kurtosis	2.50603
N	38827
Minimum	0.000
1st Quartile	0.342
Median	11.030
3rd Quartile	134.500
Maximum	805.000

95% Confidence Interval for Mu

97.378	100.562

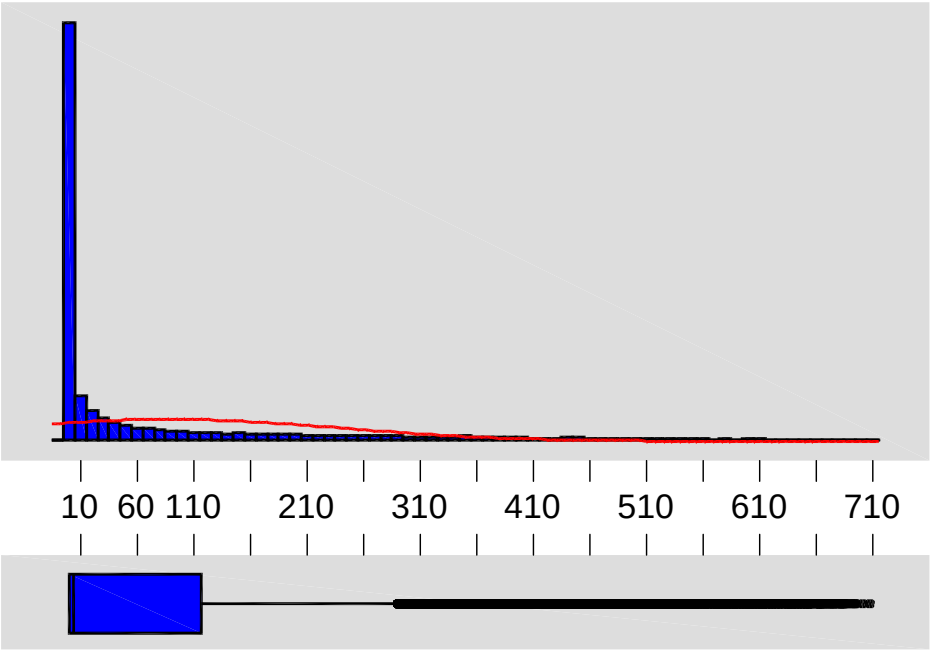
95% Confidence Interval for Sigma

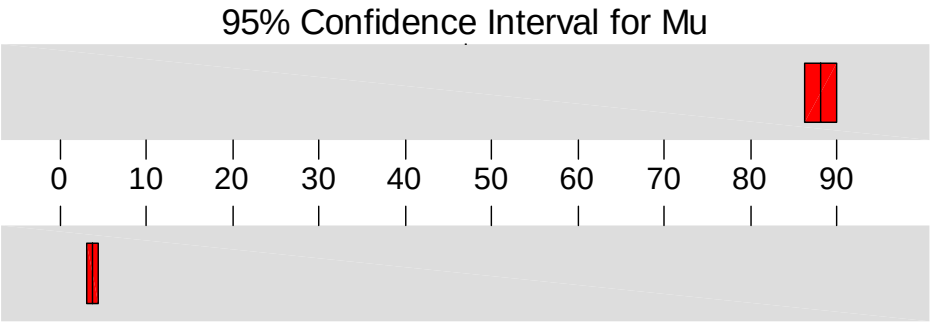
158.949	161.201

95% Confidence Interval for Median

10.399	11.601

Descriptive Statistics





Variable: COT Solar

Anderson-Darling Normality Test

A-Squared:	3507.843
P-Value:	0.000
Mean	88.176
StDev	149.608
Variance	22382.6
Skewness	1.92223
Kurtosis	2.91913
N	25063
Minimum	0.000
1st Quartile	0.000
Median	3.725
3rd Quartile	116.100
Maximum	708.000

95% Confidence Interval for Mu

86.323	90.028

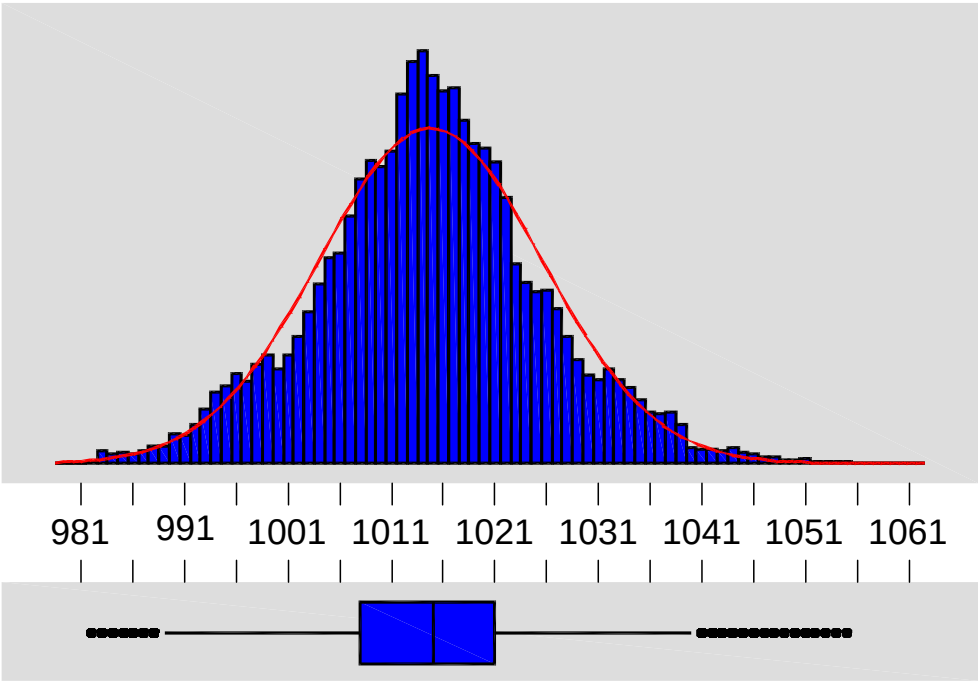
95% Confidence Interval for Sigma

148.310	150.929

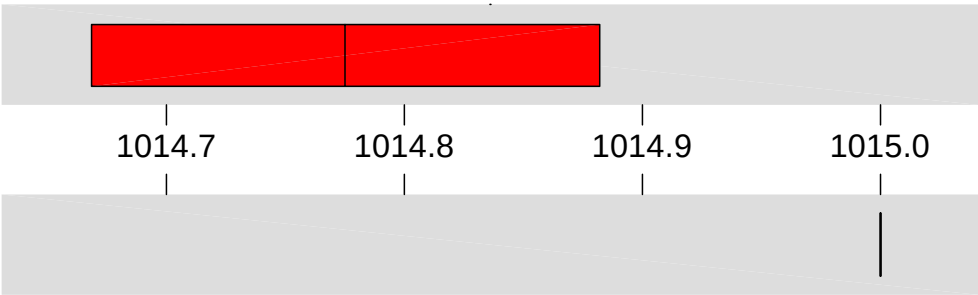
95% Confidence Interval for Median

2.947	4.403

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: END Pres

Anderson-Darling Normality Test

A-Squared:	64.247
P-Value:	0.000
Mean	1014.78
StDev	10.80
Variance	116.545
Skewness	8.76E-02
Kurtosis	0.300425
N	39129
Minimum	982.00
1st Quartile	1008.00
Median	1015.00
3rd Quartile	1021.00
Maximum	1055.00

95% Confidence Interval for Mu

1014.67	1014.88

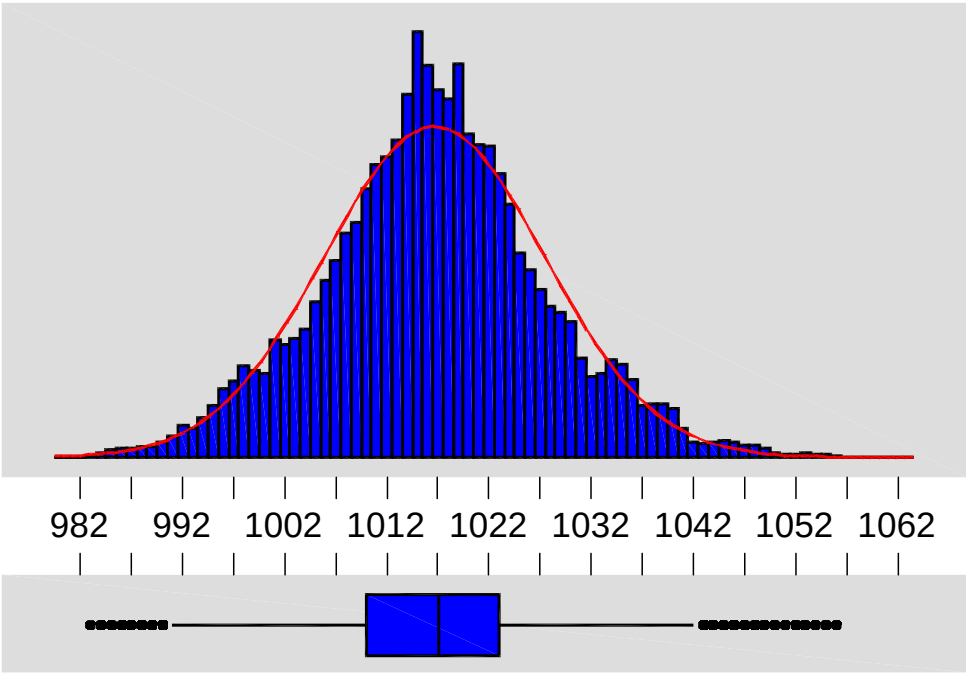
95% Confidence Interval for Sigma

10.72	10.87

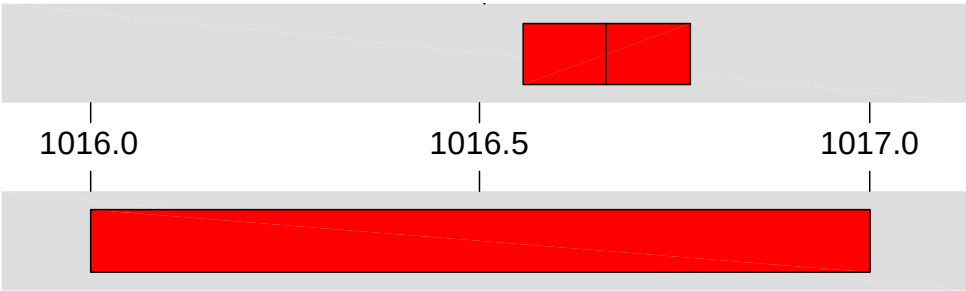
95% Confidence Interval for Median

1015.00	1015.00

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: MPU Pres

Anderson-Darling Normality Test

A-Squared:	62.089
P-Value:	0.000
Mean	1016.66
StDev	10.80
Variance	116.706
Skewness	9.55E-02
Kurtosis	0.272817
N	39403
Minimum	983.00
1st Quartile	1010.00
Median	1017.00
3rd Quartile	1023.00
Maximum	1056.00

95% Confidence Interval for Mu

1016.56	1016.77

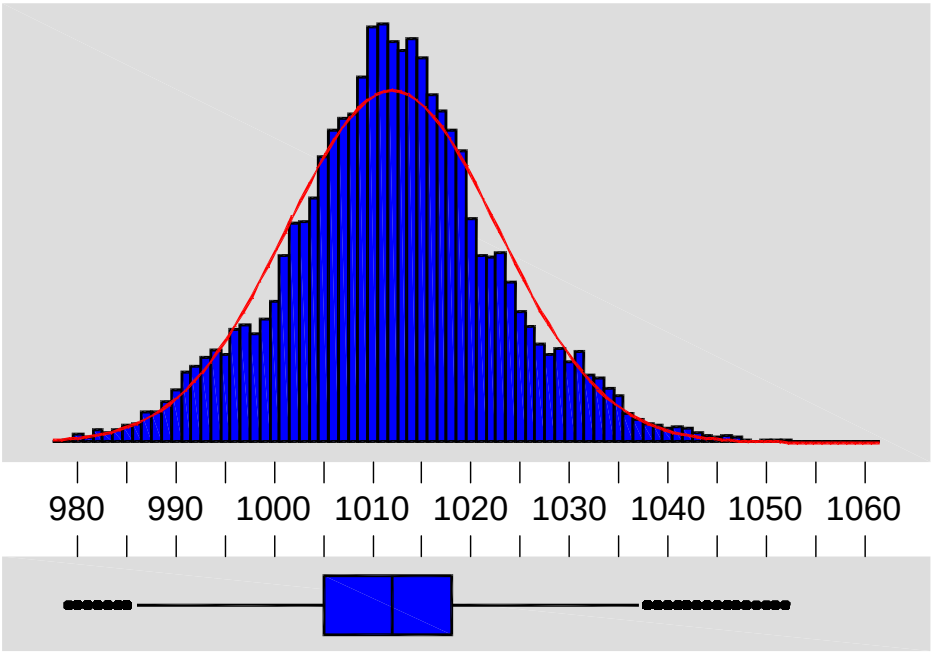
95% Confidence Interval for Sigma

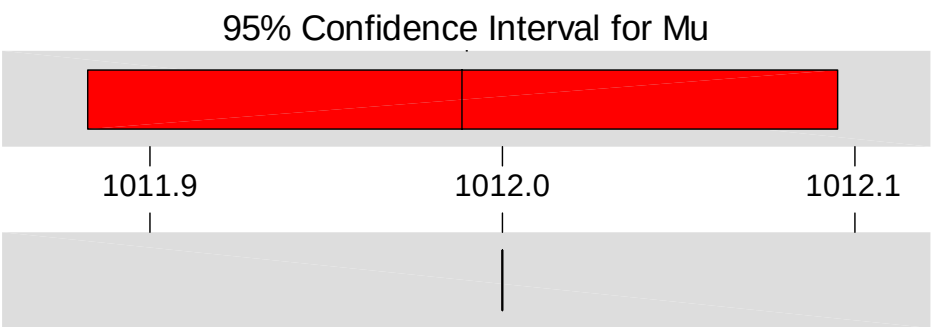
10.73	10.88

95% Confidence Interval for Median

1016.00	1017.00

Descriptive Statistics





Variable: NOR Pres

Anderson-Darling Normality Test

A-Squared:	64.730
P-Value:	0.000
Mean	1011.99
StDev	10.78
Variance	116.110
Skewness	8.99E-02
Kurtosis	0.306106
N	39267
Minimum	979.00
1st Quartile	1005.00
Median	1012.00
3rd Quartile	1018.00
Maximum	1052.00

95% Confidence Interval for Mu

1011.88	1012.10

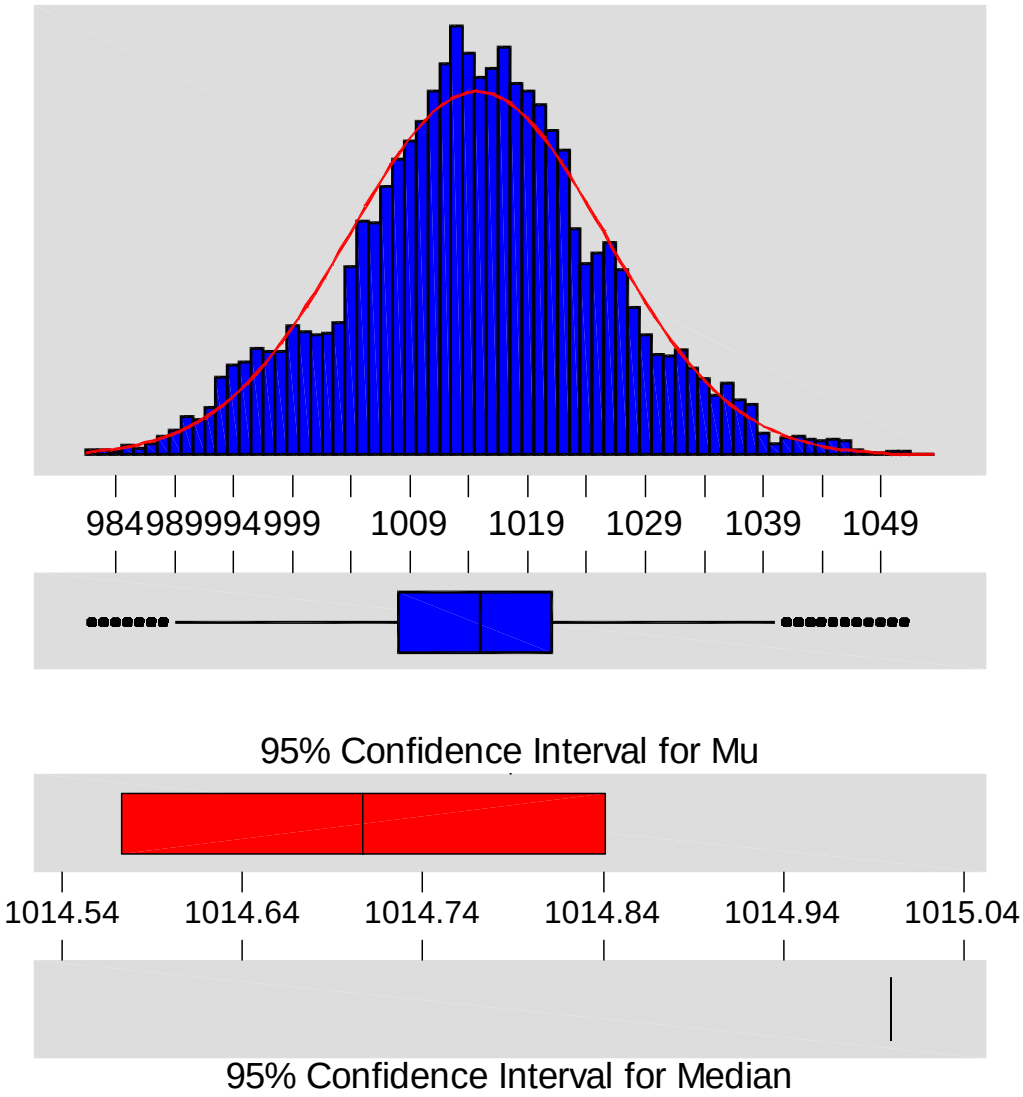
95% Confidence Interval for Sigma

10.70	10.85

95% Confidence Interval for Median

1012.00	1012.00

Descriptive Statistics



Variable: COT Pres

Anderson-Darling Normality Test

A-Squared:	30.019
P-Value:	0.000
Mean	1014.71
StDev	10.86
Variance	117.959
Skewness	2.80E-02
Kurtosis	0.101449
N	25063
Minimum	982.00
1st Quartile	1008.00
Median	1015.00
3rd Quartile	1021.00
Maximum	1051.00

95% Confidence Interval for Mu

1014.57	1014.84

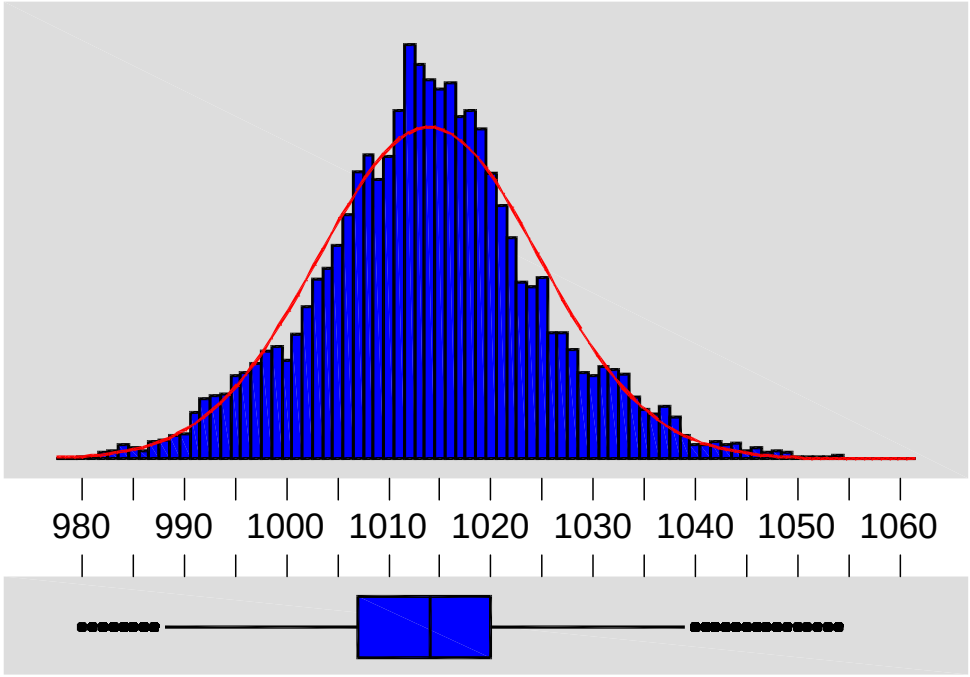
95% Confidence Interval for Sigma

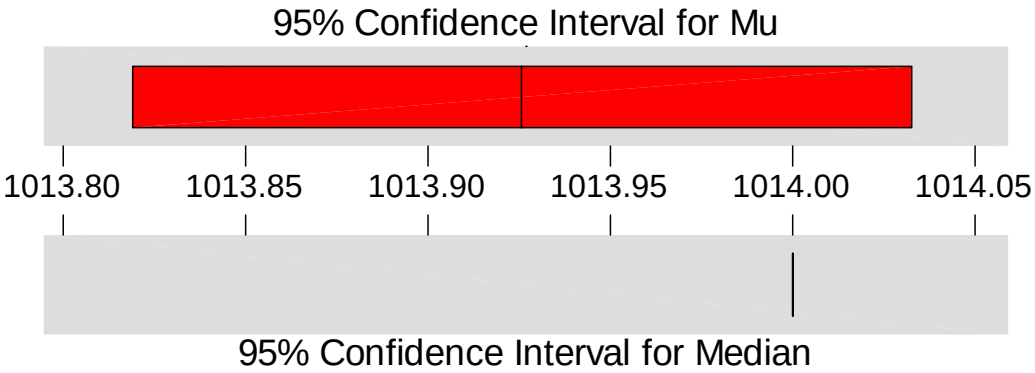
10.77	10.96

95% Confidence Interval for Median

1015.00	1015.00

Descriptive Statistics





Variable: BAD Pres

Anderson-Darling Normality Test

A-Squared:	68.374
P-Value:	0.000
Mean	1013.93
StDev	10.83
Variance	117.331
Skewness	0.114372
Kurtosis	0.322504
N	39387
Minimum	980.00
1st Quartile	1007.00
Median	1014.00
3rd Quartile	1020.00
Maximum	1054.00

95% Confidence Interval for Mu

1013.82	1014.03

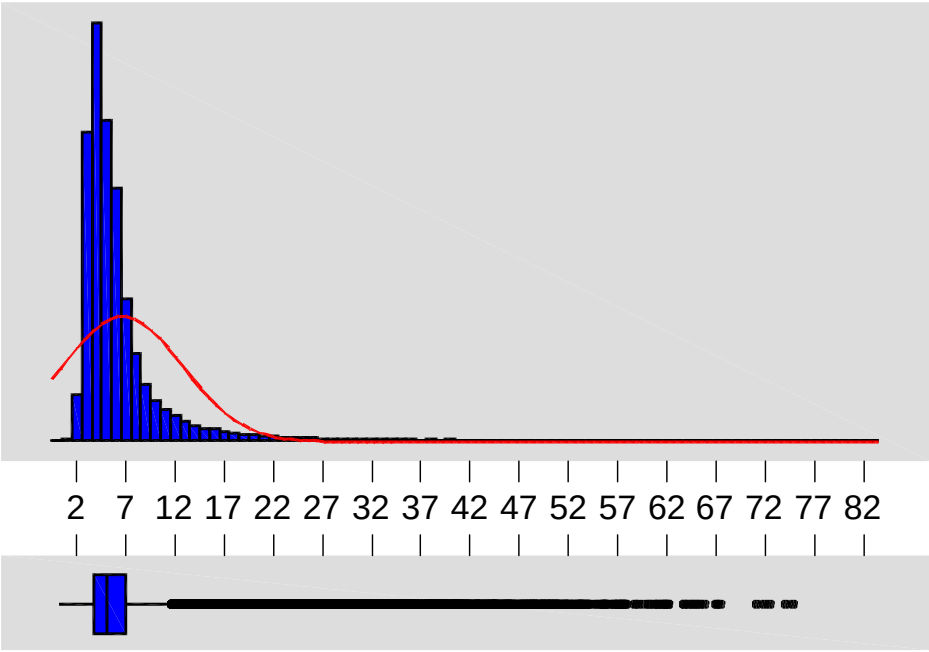
95% Confidence Interval for Sigma

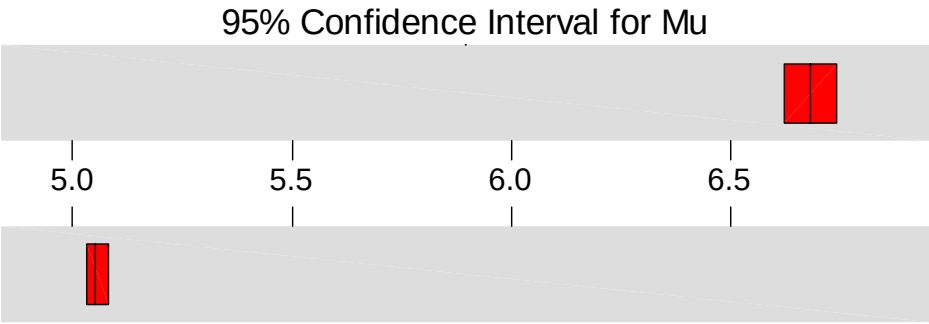
10.76	10.91

95% Confidence Interval for Median

1014.00	1014.00

Descriptive Statistics





Variable: BAD WSig

Anderson-Darling Normality Test

A-Squared:	4680.837
P-Value:	0.000
Mean	6.68298
StDev	6.06460
Variance	36.7794
Skewness	4.26519
Kurtosis	24.0328
N	39023
Minimum	0.2200
1st Quartile	3.7200
Median	5.0500
3rd Quartile	6.9300
Maximum	74.8000

95% Confidence Interval for Mu

6.6228	6.7432

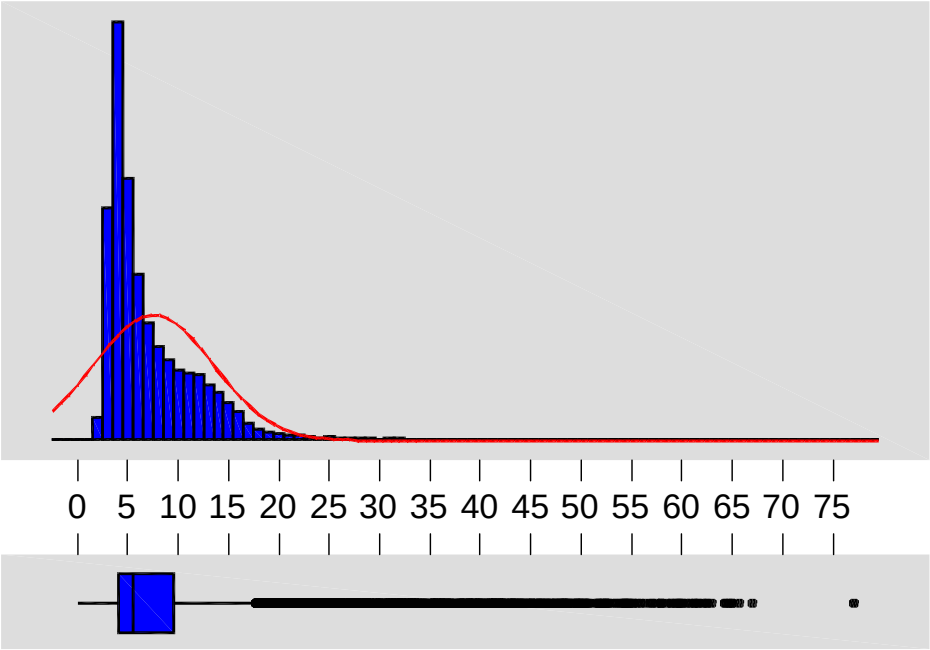
95% Confidence Interval for Sigma

6.0223	6.1074

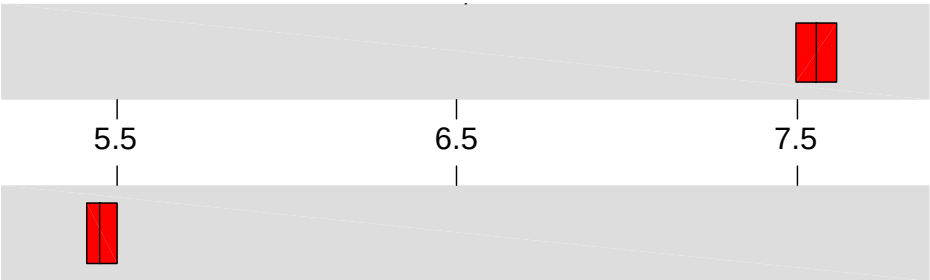
95% Confidence Interval for Median

5.0300	5.0800

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: END WSig

Anderson-Darling Normality Test

A-Squared:	2503.675
P-Value:	0.000
Mean	7.55734
StDev	5.90543
Variance	34.8741
Skewness	3.42652
Kurtosis	18.7109
N	36037
Minimum	0.0000
1st Quartile	3.9900
Median	5.4500
3rd Quartile	9.5050
Maximum	77.1000

95% Confidence Interval for Mu

7.4964	7.6183

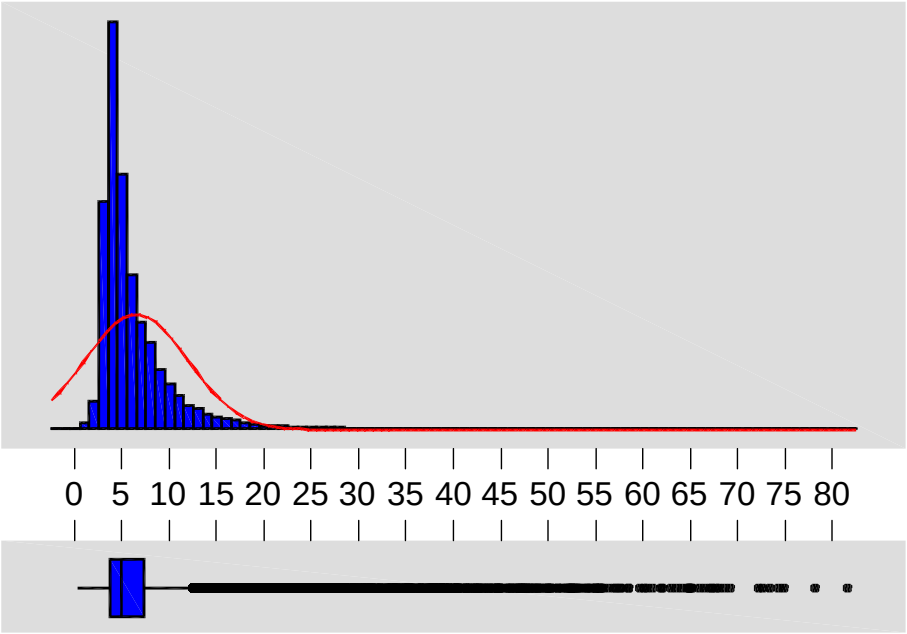
95% Confidence Interval for Sigma

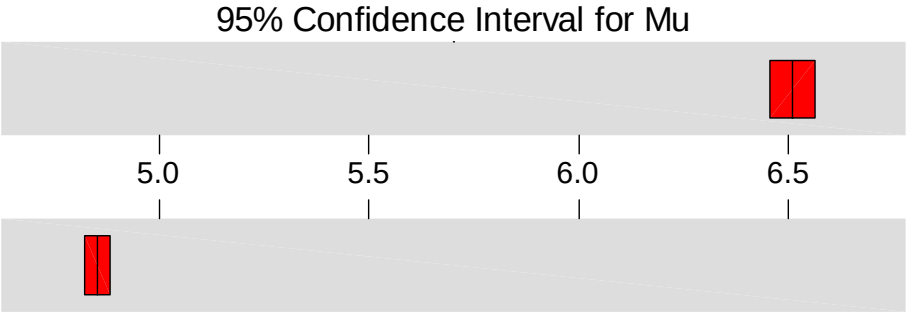
5.8626	5.9489

95% Confidence Interval for Median

5.4100	5.5000

Descriptive Statistics





Variable: MPU WSig

Anderson-Darling Normality Test

A-Squared:	3868.161
P-Value:	0.000
Mean	6.50997
StDev	5.41058
Variance	29.2743
Skewness	4.59774
Kurtosis	31.7765
N	38660
Minimum	0.2000
1st Quartile	3.7700
Median	4.8500
3rd Quartile	7.2800
Maximum	81.7000

95% Confidence Interval for Mu

6.4560	6.5639

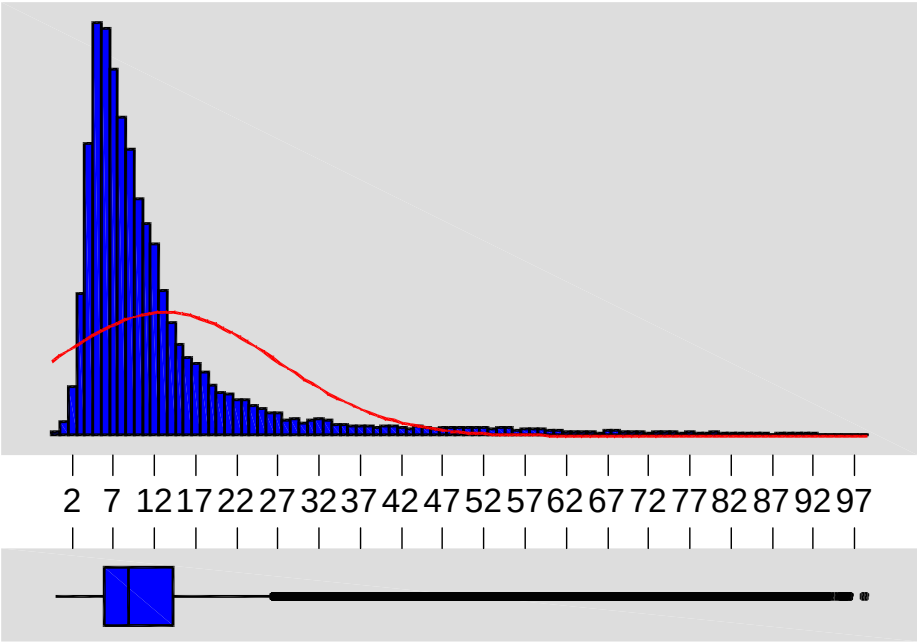
95% Confidence Interval for Sigma

5.3727	5.4490

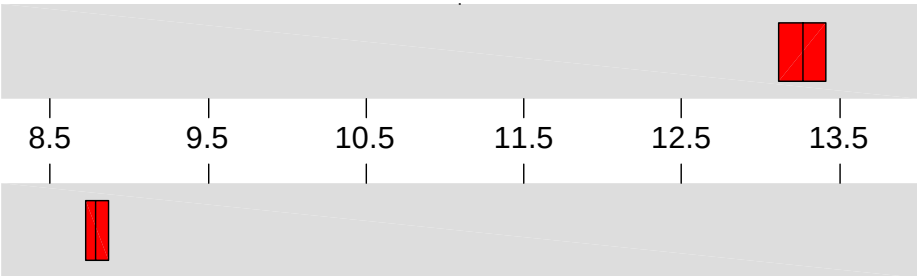
95% Confidence Interval for Median

4.8200	4.8800

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: NOR WSig

Anderson-Darling Normality Test

A-Squared:	3486.677
P-Value:	0.000
Mean	13.2658
StDev	13.6298
Variance	185.771
Skewness	2.89220
Kurtosis	9.44426
N	32262
Minimum	0.0000
1st Quartile	5.8200
Median	8.7900
3rd Quartile	14.1400
Maximum	98.2000

95% Confidence Interval for Mu

13.1170	13.4145

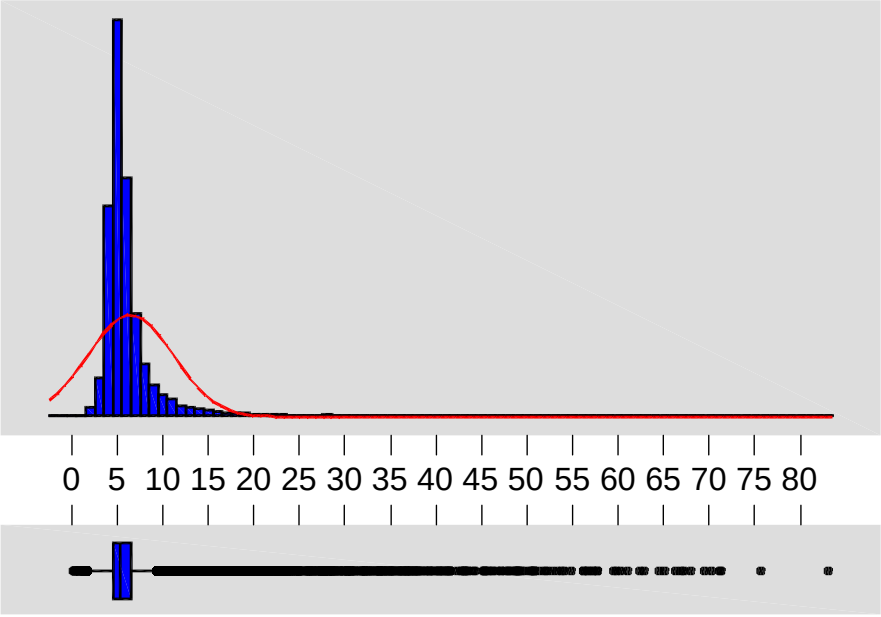
95% Confidence Interval for Sigma

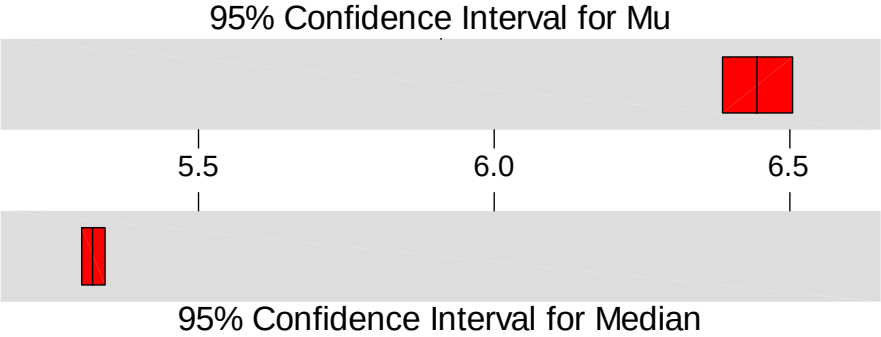
13.5254	13.7358

95% Confidence Interval for Median

8.7200	8.8700

Descriptive Statistics





Variable: COT WSig

Anderson-Darling Normality Test

A-Squared:	3216.406
P-Value:	0.000
Mean	6.44553
StDev	4.68766
Variance	21.9742
Skewness	5.94067
Kurtosis	50.0762
N	23337
Minimum	0.1900
1st Quartile	4.5900
Median	5.3200
3rd Quartile	6.4900
Maximum	83.1000

95% Confidence Interval for Mu

6.3854	6.5057

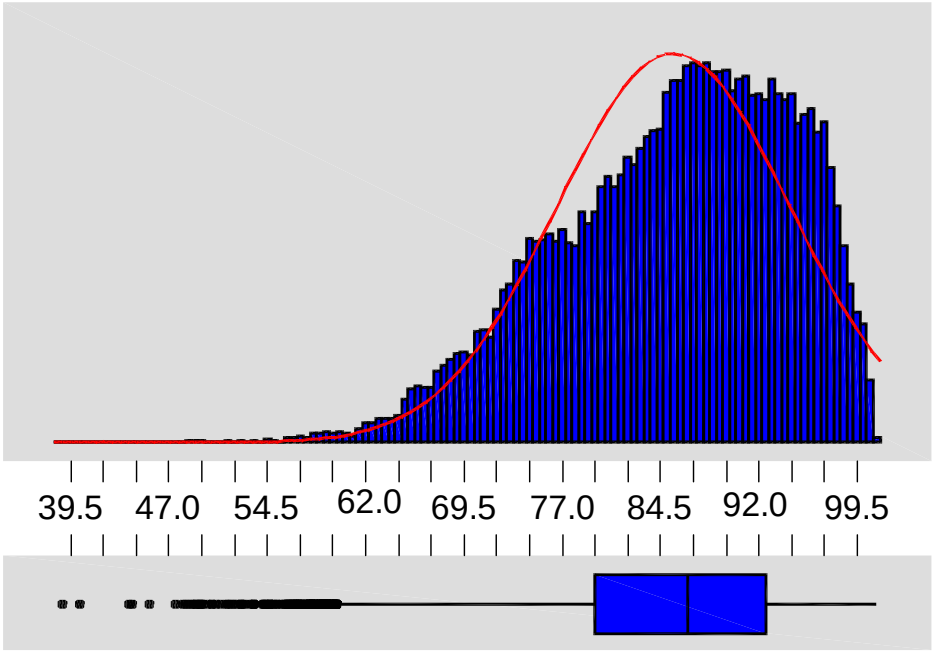
95% Confidence Interval for Sigma

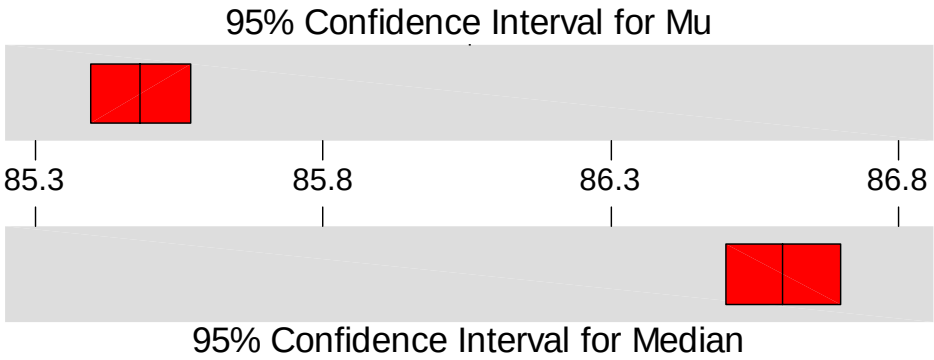
4.6455	4.7306

95% Confidence Interval for Median

5.3000	5.3400

Descriptive Statistics





Variable: END RH

Anderson-Darling Normality Test

A-Squared:	295.496
P-Value:	0.000
Mean	85.4830
StDev	8.8907
Variance	79.0442
Skewness	-5.6E-01
Kurtosis	-1.6E-01
N	39082
Minimum	38.910
1st Quartile	79.500
Median	86.600
3rd Quartile	92.600
Maximum	101.000

95% Confidence Interval for Mu

85.395	85.571

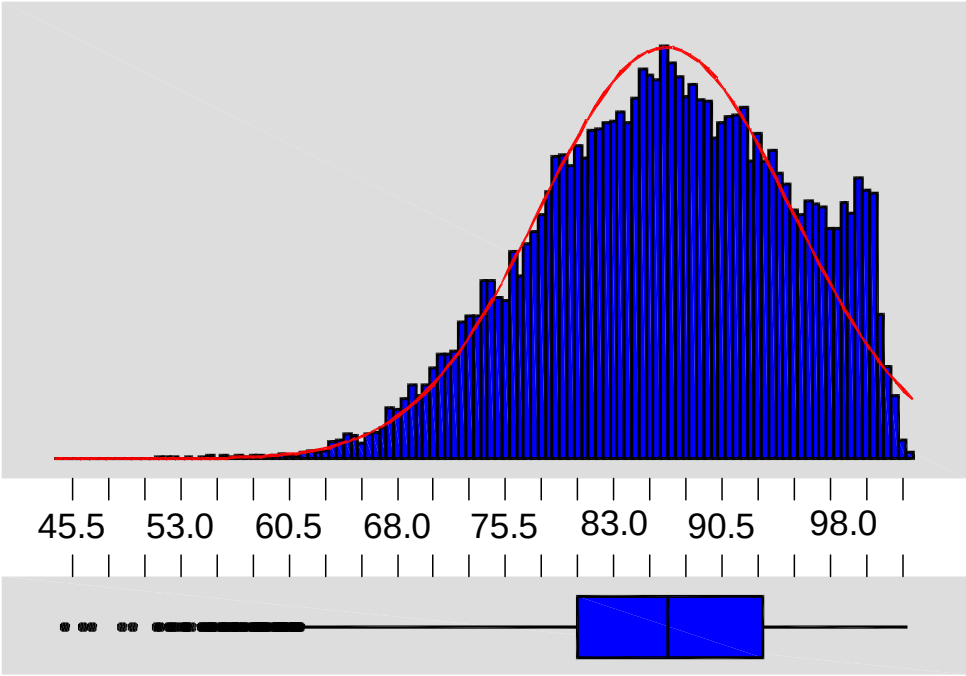
95% Confidence Interval for Sigma

8.829	8.953

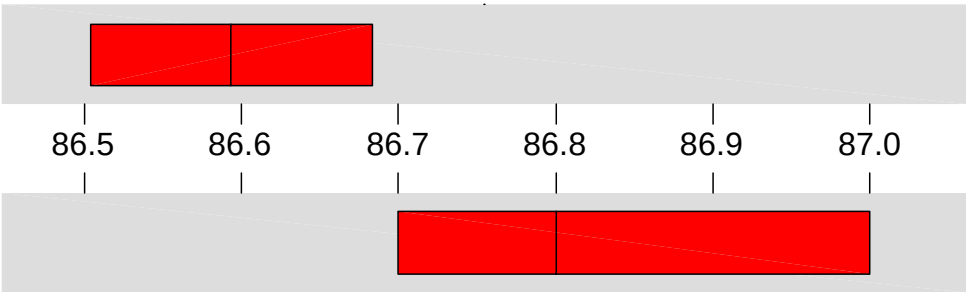
95% Confidence Interval for Median

86.500	86.700

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: NOR RH

Anderson-Darling Normality Test

A-Squared:	93.037
P-Value:	0.000
Mean	86.5934
StDev	8.7215
Variance	76.0652
Skewness	-2.9E-01
Kurtosis	-4.0E-01
N	36404
Minimum	44.900
1st Quartile	80.500
Median	86.800
3rd Quartile	93.300
Maximum	103.400

95% Confidence Interval for Mu

86.504	86.683

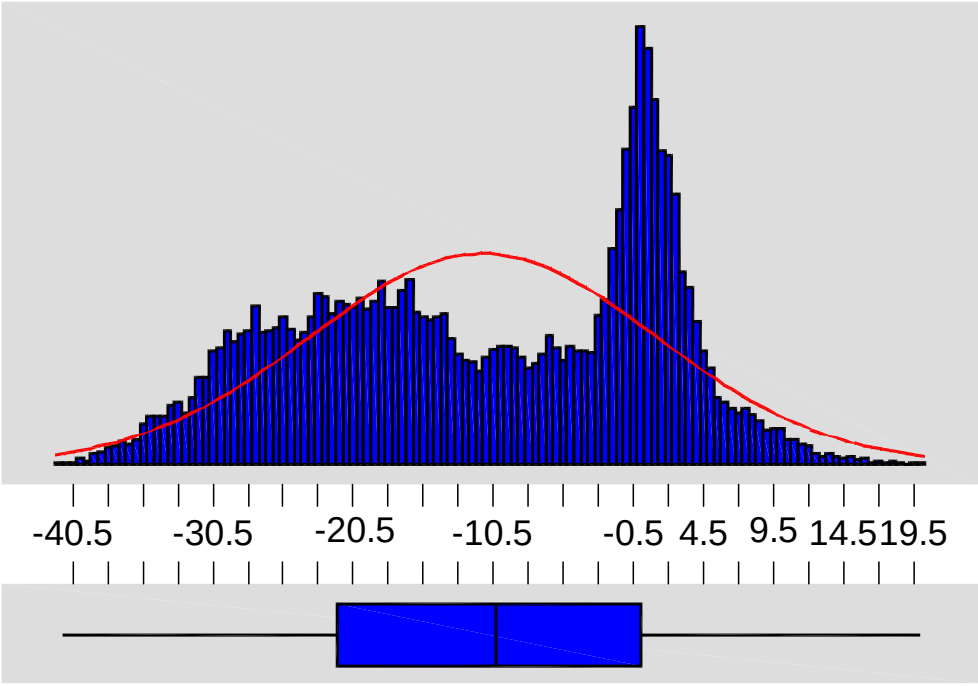
95% Confidence Interval for Sigma

8.659	8.785

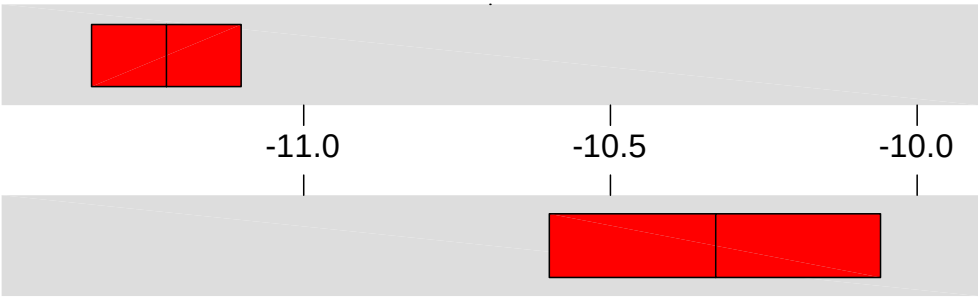
95% Confidence Interval for Median

86.700	87.000

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: NOR Temp

Anderson-Darling Normality Test

A-Squared:	729.193
P-Value:	0.000
Mean	-11.2246
StDev	12.3247
Variance	151.897
Skewness	-2.1E-01
Kurtosis	-1.12821
N	39234
Minimum	-41.2800
1st Quartile	-21.6000
Median	-10.3300
3rd Quartile	0.0013
Maximum	19.9300

95% Confidence Interval for Mu

-11.3465	-11.1026

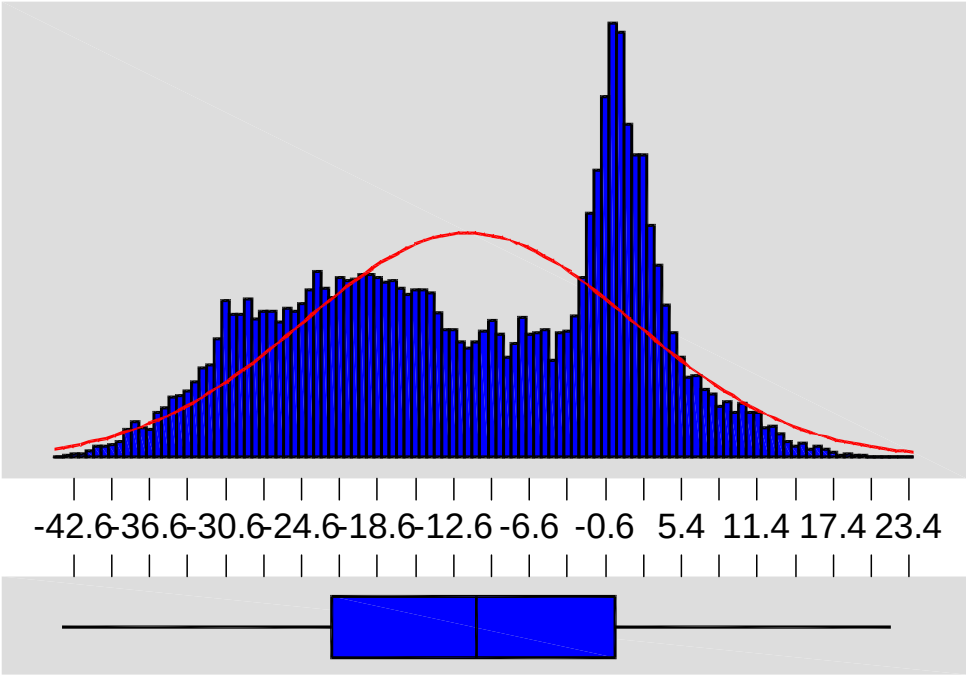
95% Confidence Interval for Sigma

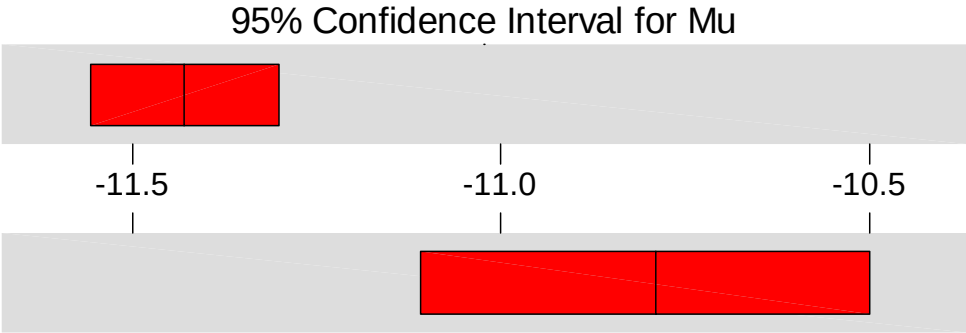
12.2390	12.4115

95% Confidence Interval for Median

-10.6000	-10.0600

Descriptive Statistics





Variable: MPU Temp

Anderson-Darling Normality Test

A-Squared:	595.317
P-Value:	0.000
Mean	-11.4290
StDev	13.0119
Variance	169.309
Skewness	-1.6E-01
Kurtosis	-1.07102
N	39376
Minimum	-43.6000
1st Quartile	-22.2700
Median	-10.7900
3rd Quartile	0.1290
Maximum	21.9500

95% Confidence Interval for Mu

-11.5575	-11.3004

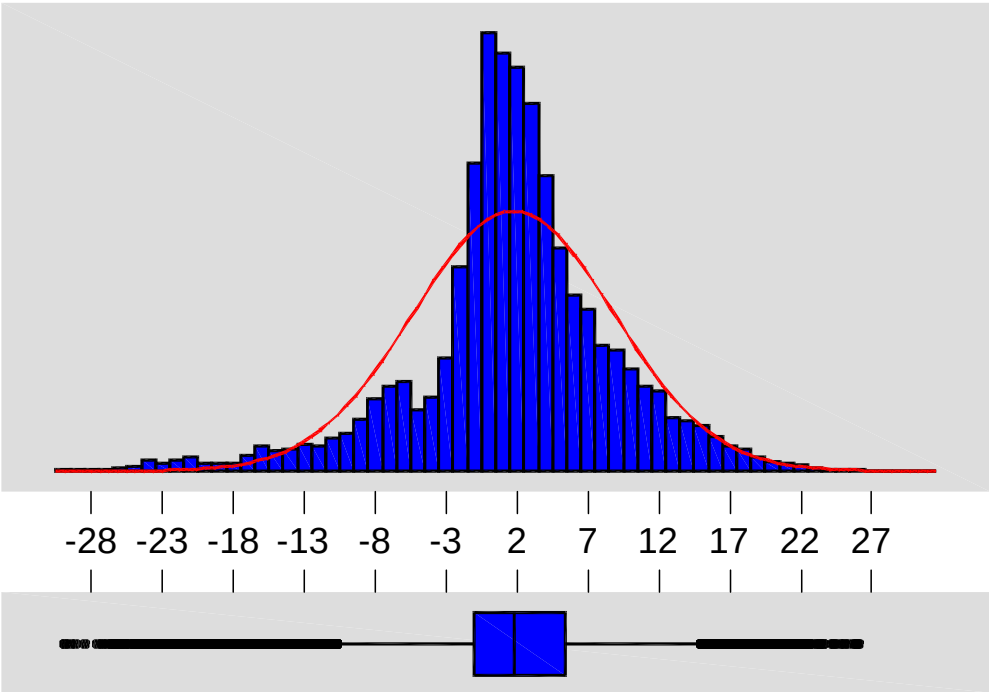
95% Confidence Interval for Sigma

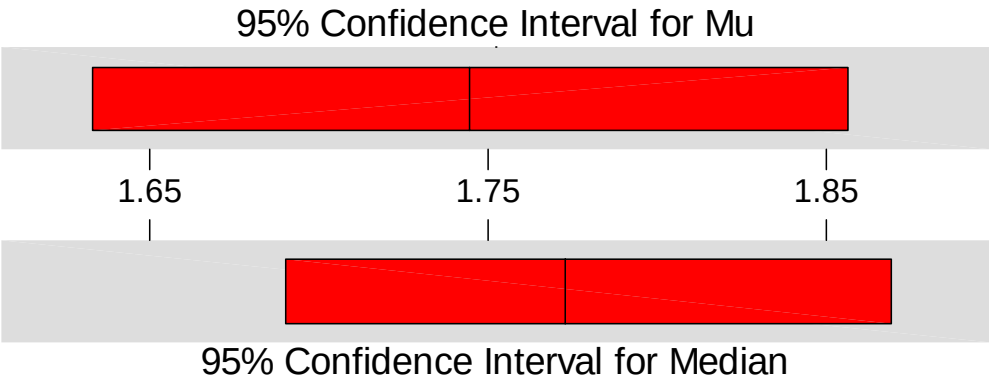
12.9216	13.1034

95% Confidence Interval for Median

-11.1100	-10.5000

Descriptive Statistics





Variable: BAD T OW

Anderson-Darling Normality Test

A-Squared:	201.730
P-Value:	0.000
Mean	1.74457
StDev	7.07392
Variance	50.0404
Skewness	-5.1E-01
Kurtosis	1.84276
N	15398
Minimum	-29.9400
1st Quartile	-1.0495
Median	1.7730
3rd Quartile	5.3590
Maximum	26.0500

95% Confidence Interval for Mu

1.6328	1.8563

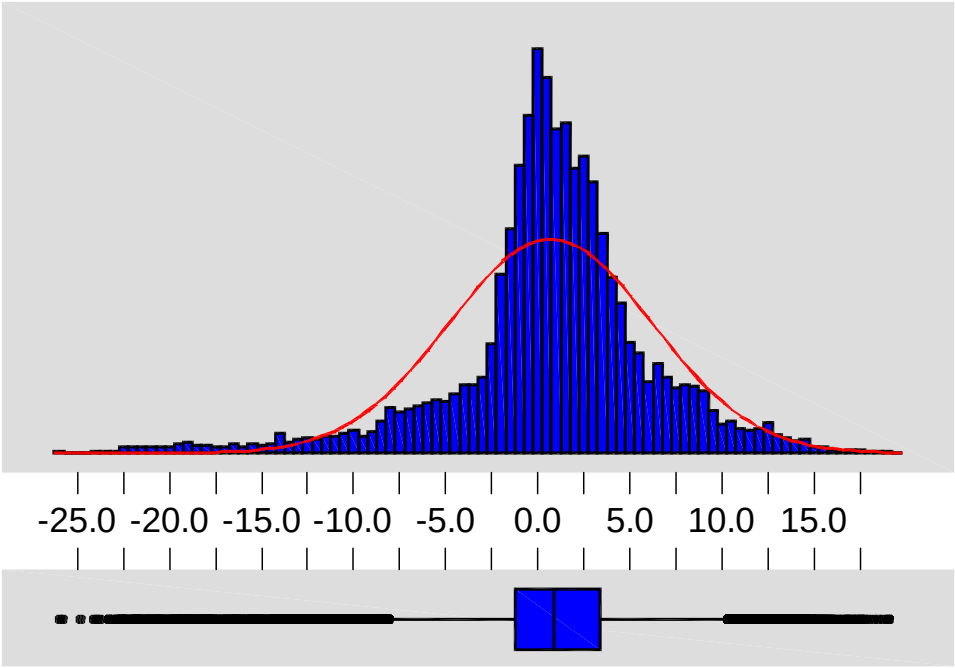
95% Confidence Interval for Sigma

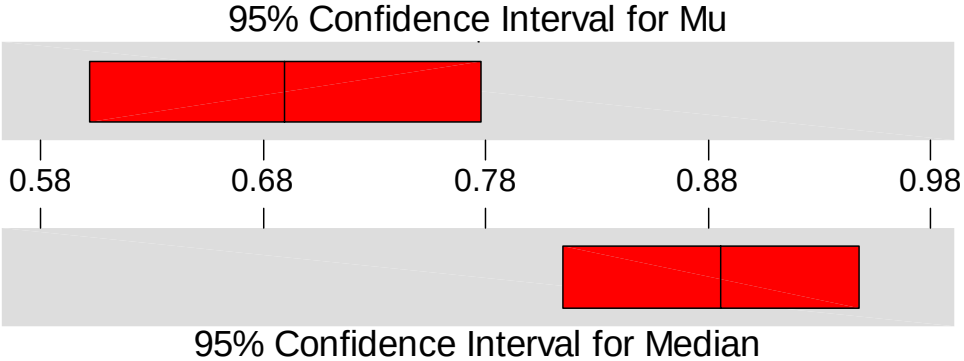
6.9958	7.1538

95% Confidence Interval for Median

1.6899	1.8693

Descriptive Statistics





Variable: END T OW

Anderson-Darling Normality Test

A-Squared:	306.492
P-Value:	0.000
Mean	0.68980
StDev	5.51928
Variance	30.4625
Skewness	-8.7E-01
Kurtosis	2.89775
N	15084
Minimum	-25.9300
1st Quartile	-1.2218
Median	0.8855
3rd Quartile	3.3750
Maximum	19.0900

95% Confidence Interval for Mu

0.6017	0.7779

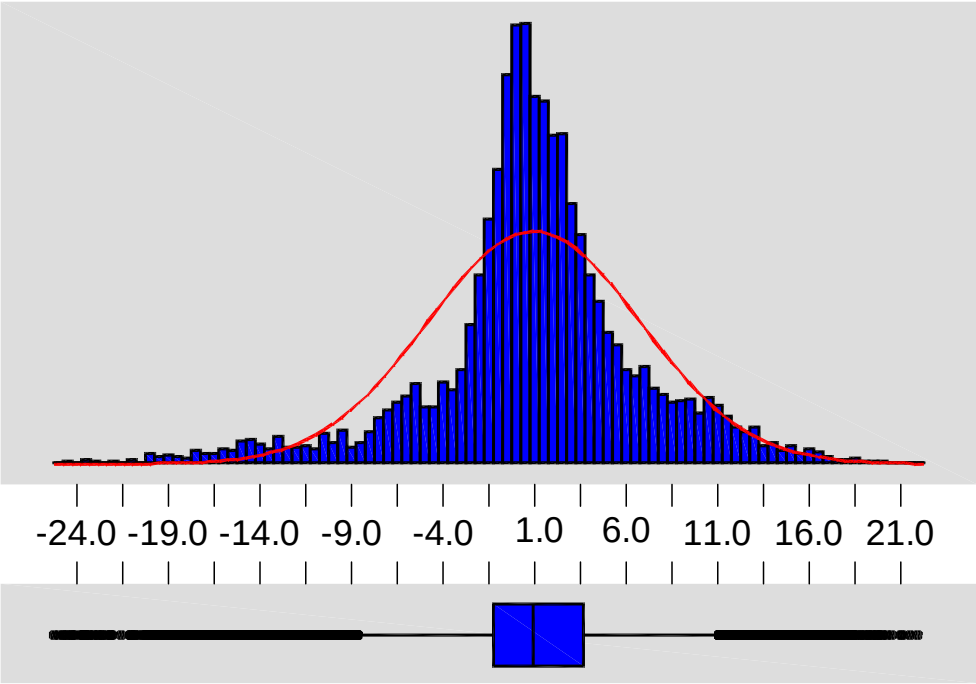
95% Confidence Interval for Sigma

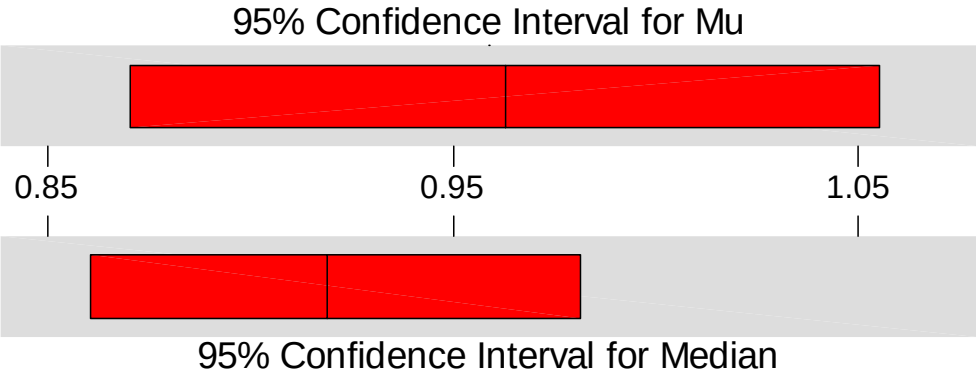
5.4577	5.5823

95% Confidence Interval for Median

0.8150	0.9480

Descriptive Statistics





Variable: MPU T OW

Anderson-Darling Normality Test

A-Squared:	270.858
P-Value:	0.000
Mean	0.96286
StDev	5.84977
Variance	34.2198
Skewness	-5.1E-01
Kurtosis	2.07897
N	15395
Minimum	-25.2500
1st Quartile	-1.2300
Median	0.9190
3rd Quartile	3.7040
Maximum	21.9500

95% Confidence Interval for Mu

0.8704	1.0553

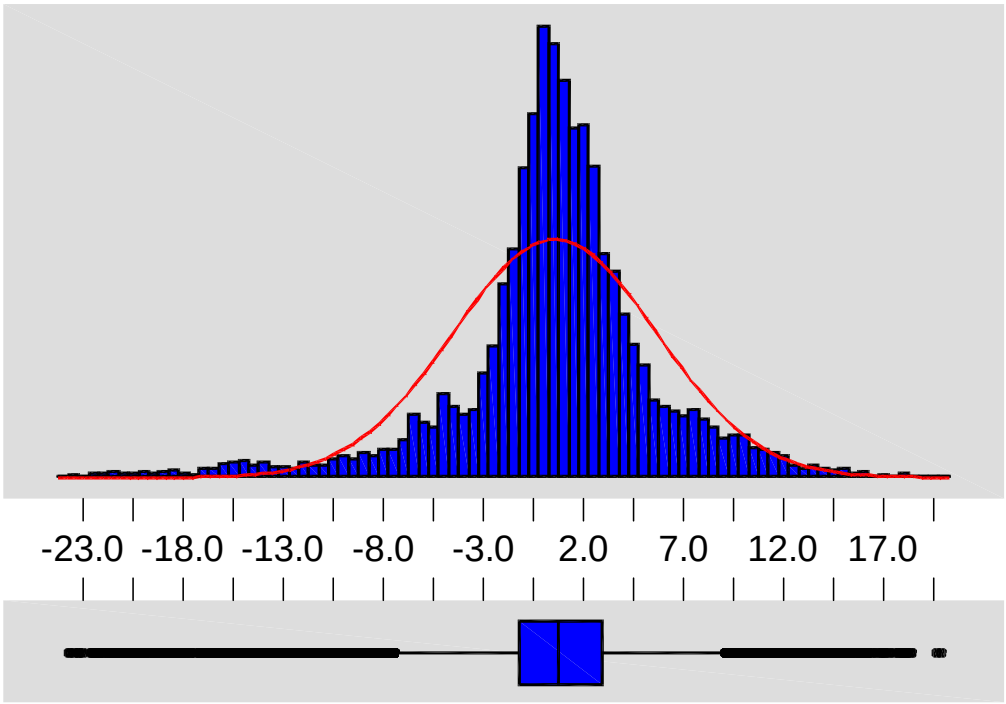
95% Confidence Interval for Sigma

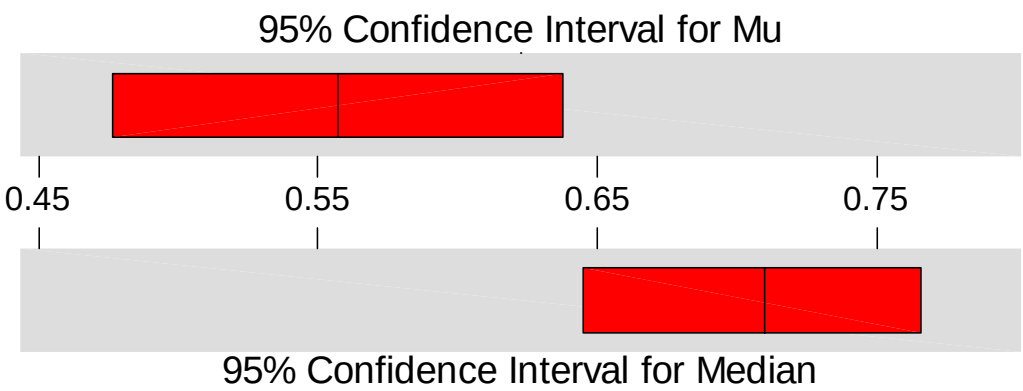
5.7852	5.9159

95% Confidence Interval for Median

0.8604	0.9816

Descriptive Statistics





Variable: NOR T OW

Anderson-Darling Normality Test

A-Squared:	330.326
P-Value:	0.000
Mean	0.55706
StDev	5.09650
Variance	25.9743
Skewness	-7.7E-01
Kurtosis	3.16750
N	15277
Minimum	-23.7700
1st Quartile	-1.2345
Median	0.7100
3rd Quartile	2.9090
Maximum	19.9300

95% Confidence Interval for Mu

0.4762	0.6379

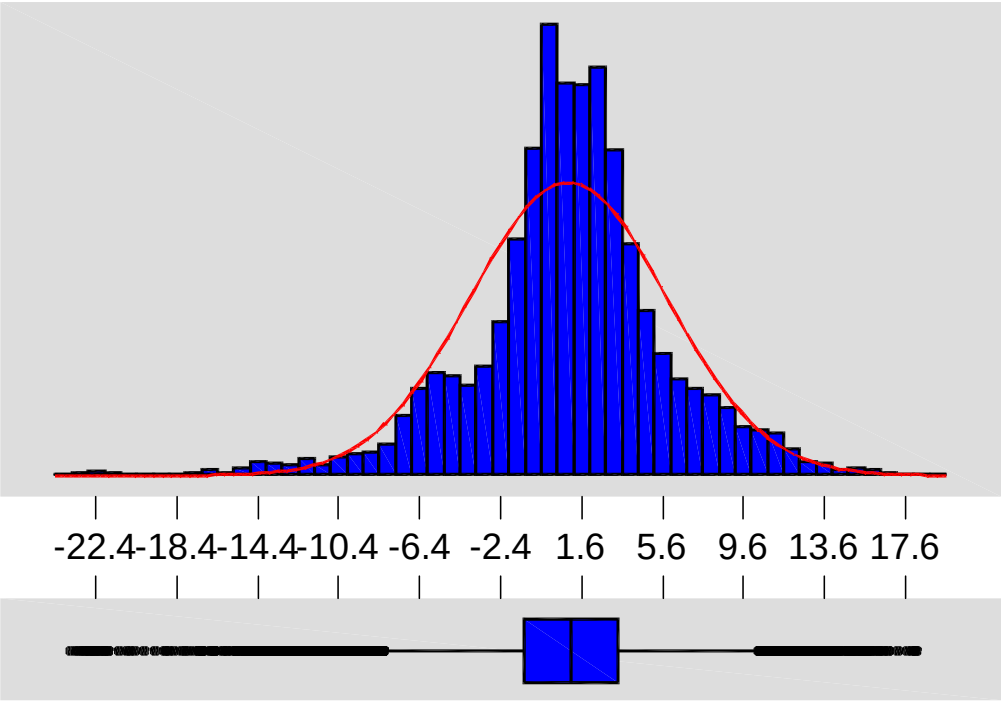
95% Confidence Interval for Sigma

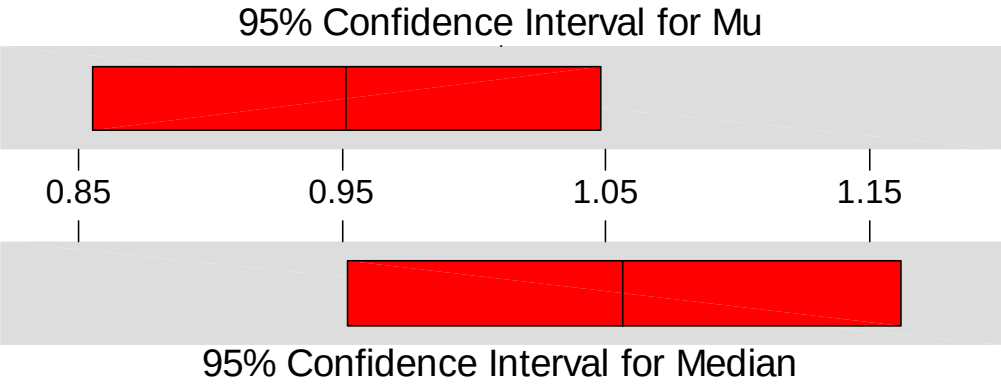
5.0400	5.1543

95% Confidence Interval for Median

0.6449	0.7660

Descriptive Statistics





Variable: COT T OW

Anderson-Darling Normality Test

A-Squared:	95.591
P-Value:	0.000
Mean	0.95146
StDev	4.87080
Variance	23.7247
Skewness	-5.0E-01
Kurtosis	2.28403
N	9771
Minimum	-23.6400
1st Quartile	-1.2160
Median	1.0560
3rd Quartile	3.4230
Maximum	18.1700

95% Confidence Interval for Mu

0.8549	1.0481

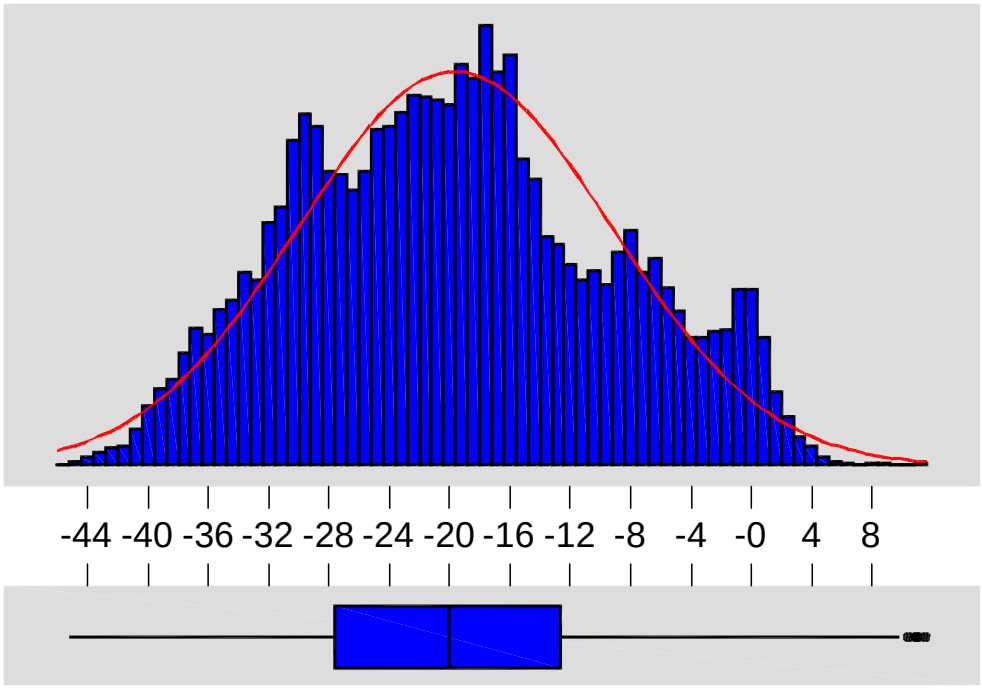
95% Confidence Interval for Sigma

4.8035	4.9401

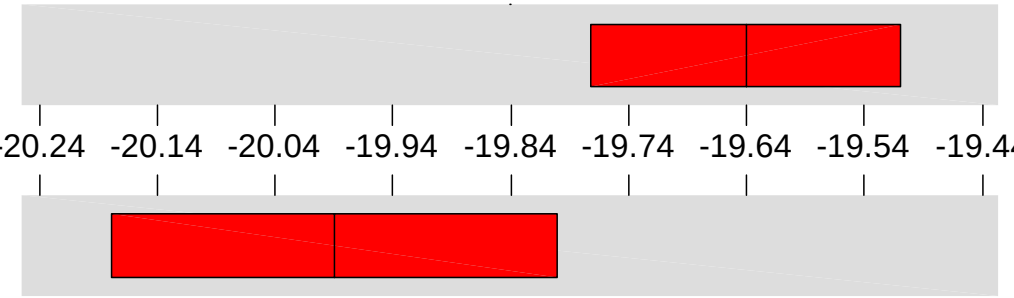
95% Confidence Interval for Median

0.9520	1.1620

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: BAD T Ice

Anderson-Darling Normality Test

A-Squared:	65.572
P-Value:	0.000
Mean	-19.6405
StDev	10.3686
Variance	107.509
Skewness	0.172707
Kurtosis	-6.4E-01
N	23878
Minimum	-45.2800
1st Quartile	-27.6500
Median	-19.9900
3rd Quartile	-12.6200
Maximum	11.5500

95% Confidence Interval for Mu

-19.7720	-19.5089

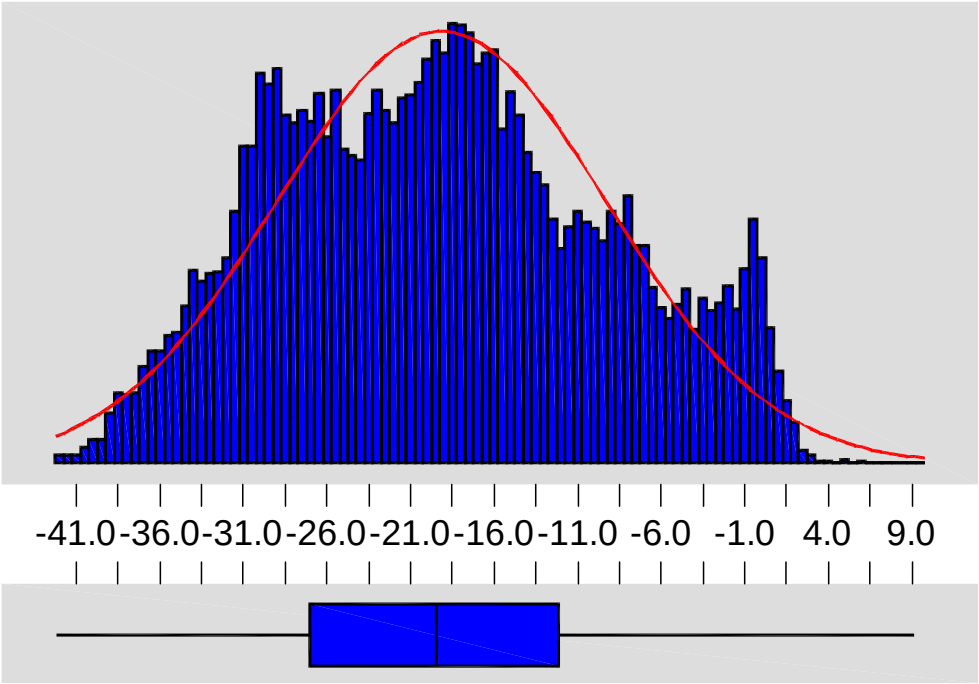
95% Confidence Interval for Sigma

10.2765	10.4625

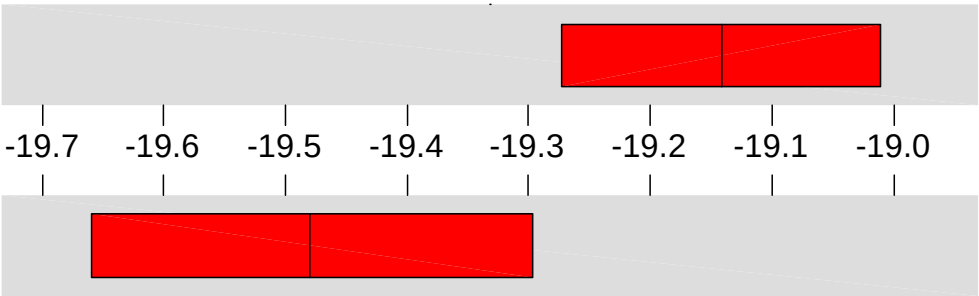
95% Confidence Interval for Median

-20.1793	-19.8000

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: END T Ice

Anderson-Darling Normality Test

A-Squared:	78.491
P-Value:	0.000
Mean	-19.1415
StDev	9.8591
Variance	97.2013
Skewness	0.179017
Kurtosis	-7.4E-01
N	21683
Minimum	-42.1600
1st Quartile	-27.0000
Median	-19.4800
3rd Quartile	-12.1800
Maximum	9.1800

95% Confidence Interval for Mu

-19.2728	-19.0103

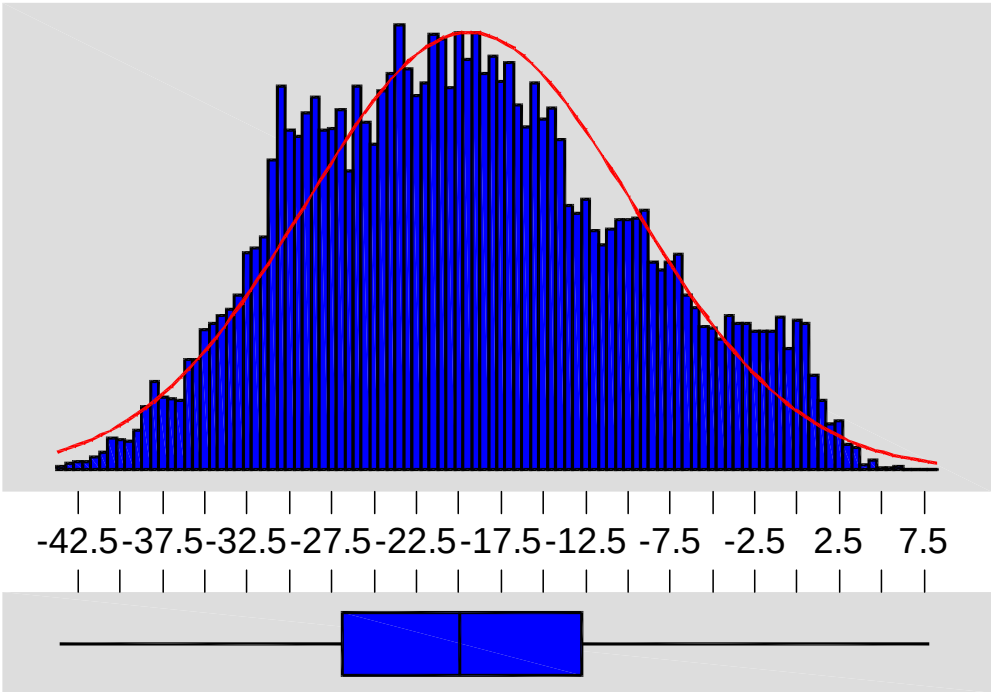
95% Confidence Interval for Sigma

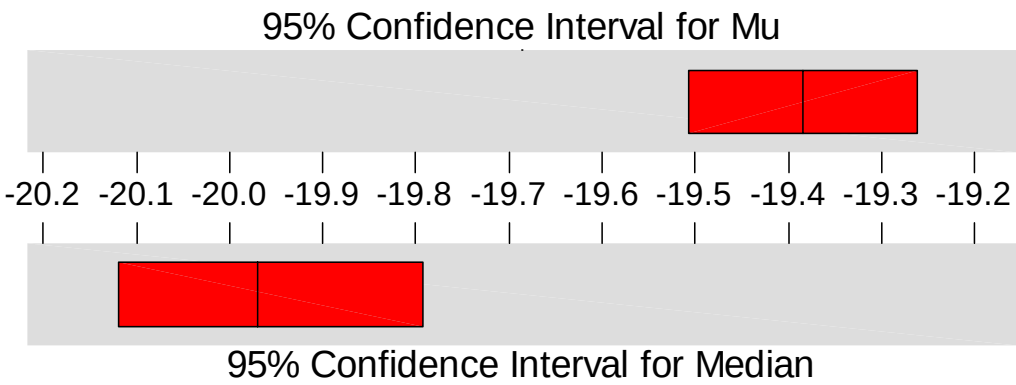
9.7671	9.9528

95% Confidence Interval for Median

-19.6600	-19.2970

Descriptive Statistics





Variable: MPU T Ice

Anderson-Darling Normality Test

A-Squared:	68.494
P-Value:	0.000
Mean	-19.3841
StDev	9.7039
Variance	94.1665
Skewness	0.212487
Kurtosis	-6.0E-01
N	23981
Minimum	-43.6000
1st Quartile	-26.8500
Median	-19.9700
3rd Quartile	-12.7000
Maximum	7.8600

95% Confidence Interval for Mu

-19.5069	-19.2613

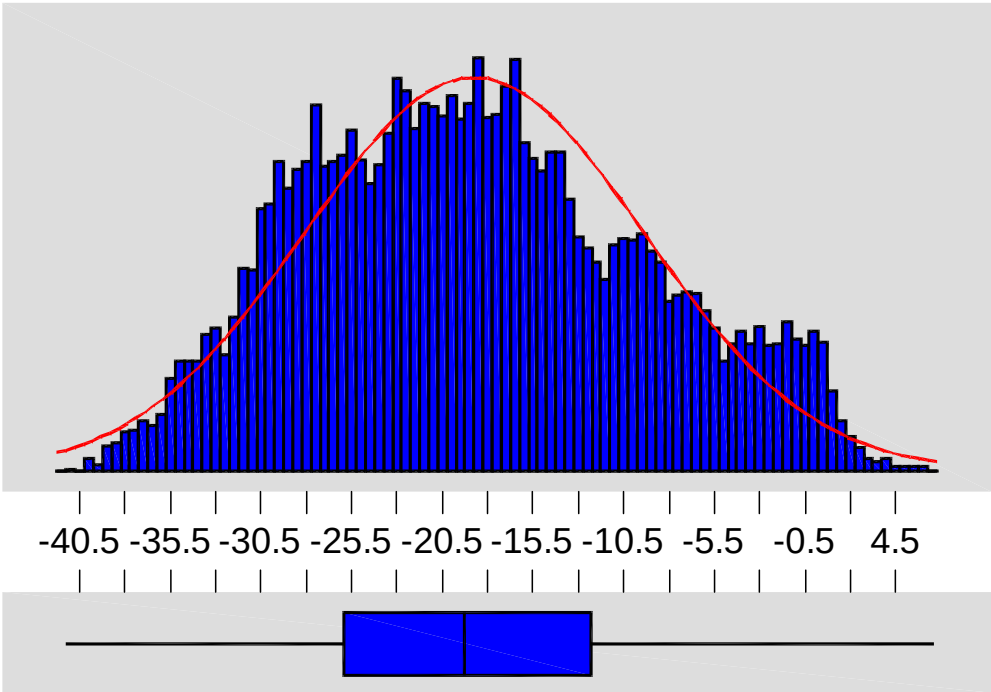
95% Confidence Interval for Sigma

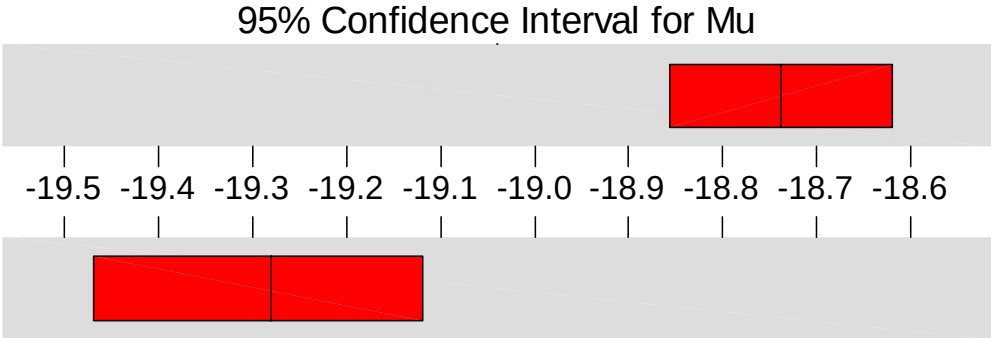
9.6179	9.7916

95% Confidence Interval for Median

-20.1200	-19.7924

Descriptive Statistics





Variable: NOR T Ice

Anderson-Darling Normality Test

A-Squared:	78.838
P-Value:	0.000
Mean	-18.7375
StDev	9.3400
Variance	87.2358
Skewness	0.232171
Kurtosis	-6.3E-01
N	23957
Minimum	-41.2800
1st Quartile	-25.9250
Median	-19.2800
3rd Quartile	-12.3000
Maximum	6.6500

95% Confidence Interval for Mu

-18.8558	-18.6192

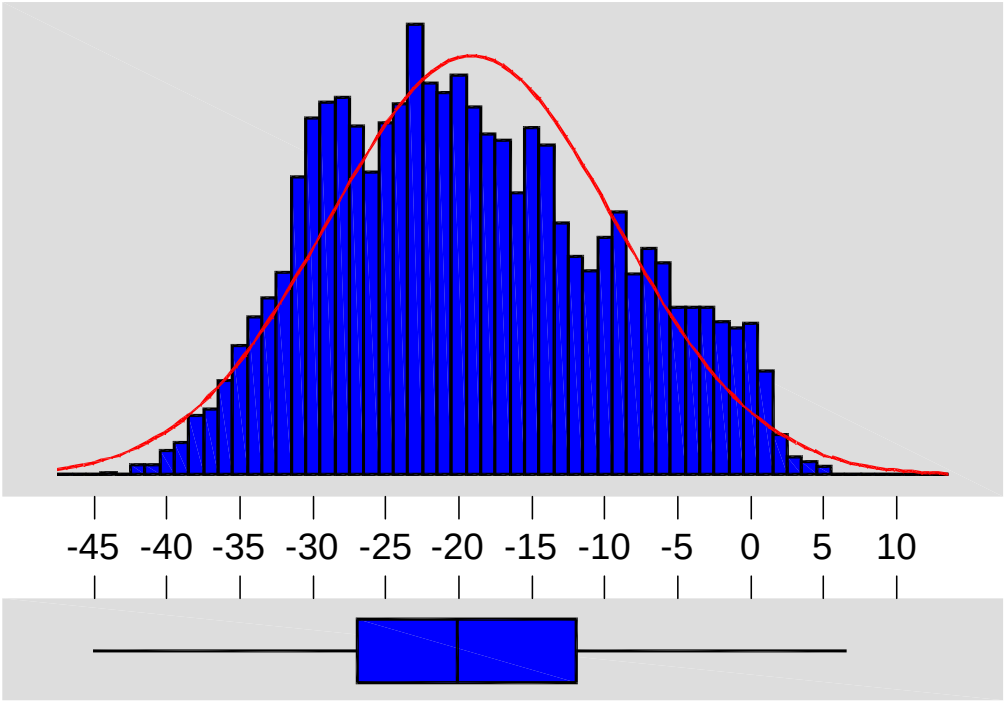
95% Confidence Interval for Sigma

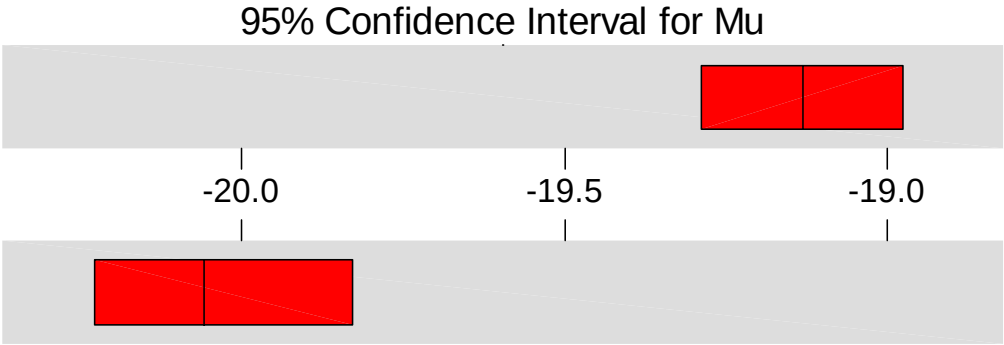
9.2571	9.4244

95% Confidence Interval for Median

-19.4700	-19.1200

Descriptive Statistics





Variable: COT T Ice

Anderson-Darling Normality Test

A-Squared:	71.222
P-Value:	0.000
Mean	-19.1315
StDev	9.8461
Variance	96.9455
Skewness	0.221255
Kurtosis	-7.3E-01
N	15278
Minimum	-45.1300
1st Quartile	-26.9400
Median	-20.0600
3rd Quartile	-11.9975
Maximum	6.6260

95% Confidence Interval for Mu

-19.2877	-18.9754

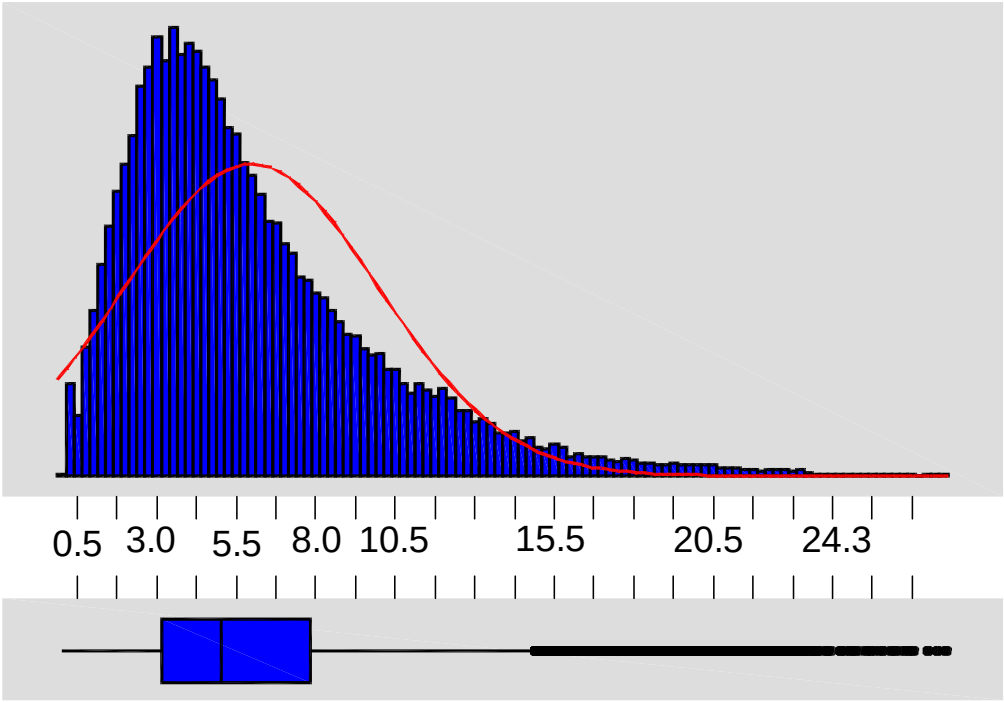
95% Confidence Interval for Sigma

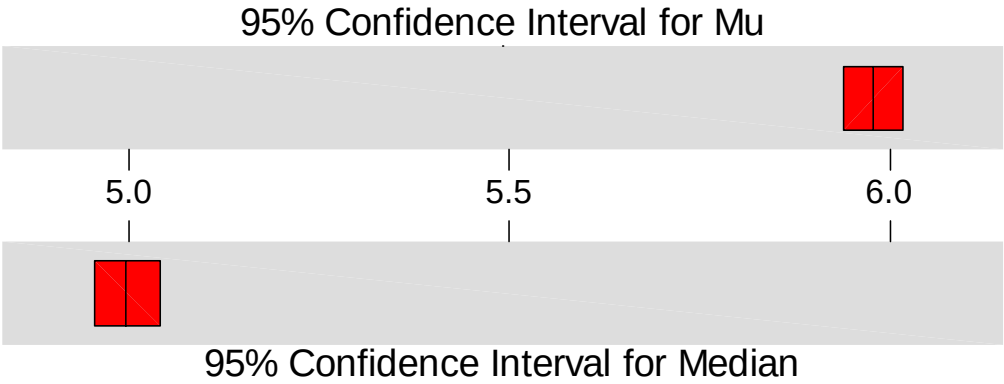
9.7369	9.9578

95% Confidence Interval for Median

-20.2300	-19.8300

Descriptive Statistics





Variable: BAD WS

Anderson-Darling Normality Test

A-Squared:	1009.205
P-Value:	0.000
Mean	5.97856
StDev	3.98288
Variance	15.8633
Skewness	1.36509
Kurtosis	2.28753
N	39343
Minimum	0.0000
1st Quartile	3.1400
Median	4.9960
3rd Quartile	7.8400
Maximum	27.8700

95% Confidence Interval for Mu

5.9392	6.0179

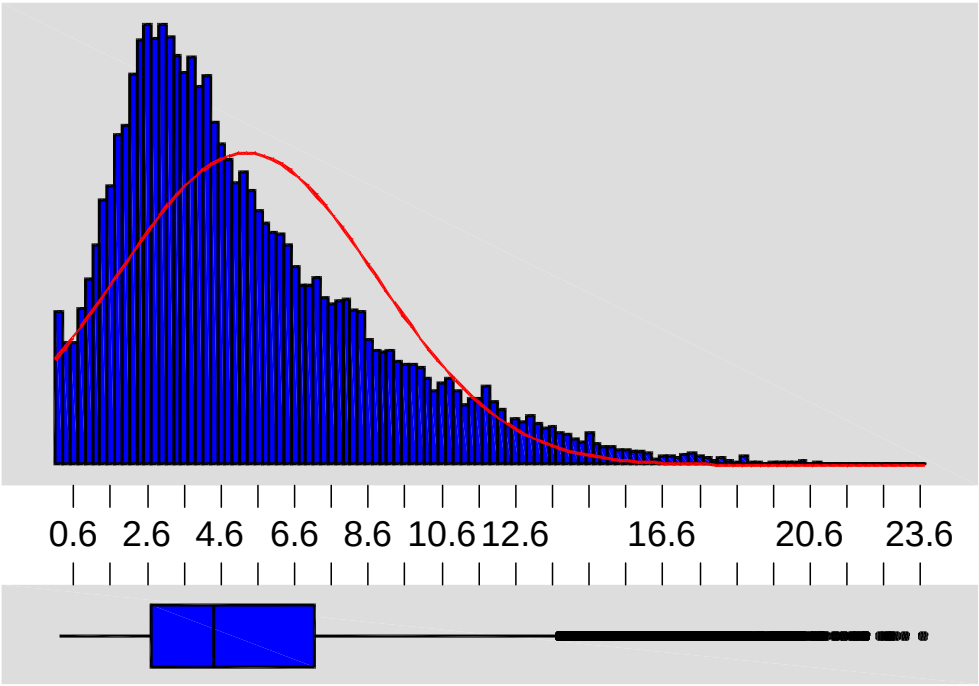
95% Confidence Interval for Sigma

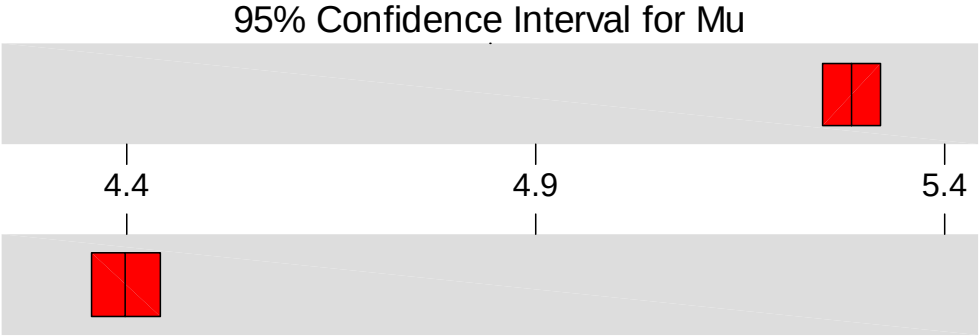
3.9552	4.0109

95% Confidence Interval for Median

4.9536	5.0404

Descriptive Statistics





Variable: END WS

Anderson-Darling Normality Test

A-Squared:	833.790
P-Value:	0.000
Mean	5.28629
StDev	3.51823
Variance	12.3780
Skewness	1.14605
Kurtosis	1.31947
N	37065
Minimum	0.2240
1st Quartile	2.7035
Median	4.3980
3rd Quartile	7.1500
Maximum	23.6900

95% Confidence Interval for Mu

5.2505	5.3221

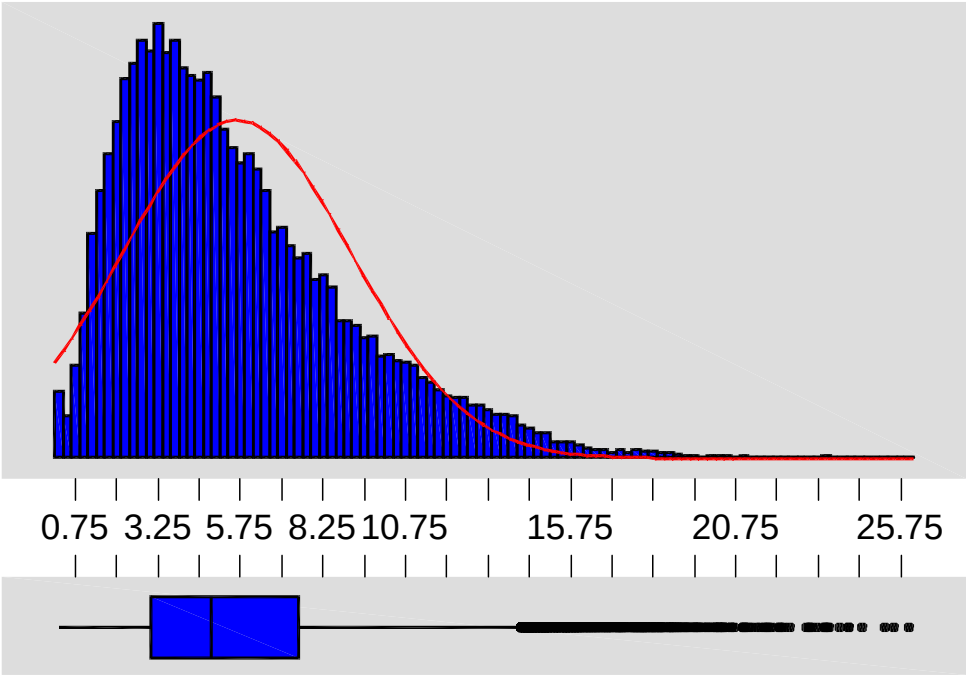
95% Confidence Interval for Sigma

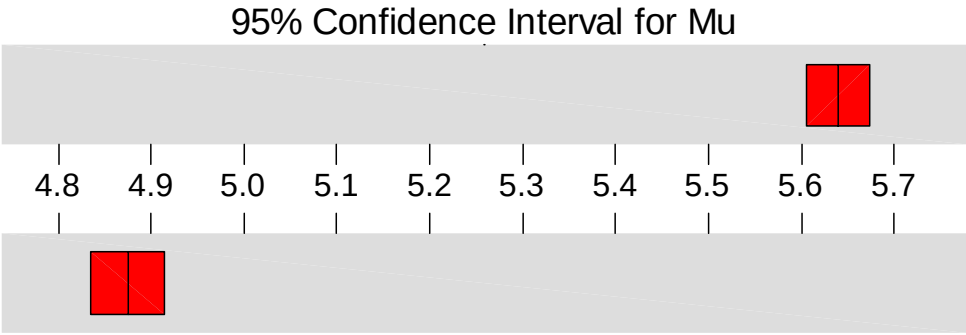
3.4931	3.5437

95% Confidence Interval for Median

4.3560	4.4407

Descriptive Statistics





Variable: MPU WS

Anderson-Darling Normality Test

A-Squared:	740.054
P-Value:	0.000
Mean	5.63975
StDev	3.47518
Variance	12.0769
Skewness	1.08191
Kurtosis	1.23220
N	39164
Minimum	0.2240
1st Quartile	3.0370
Median	4.8755
3rd Quartile	7.5200
Maximum	26.0100

95% Confidence Interval for Mu

5.6053	5.6742

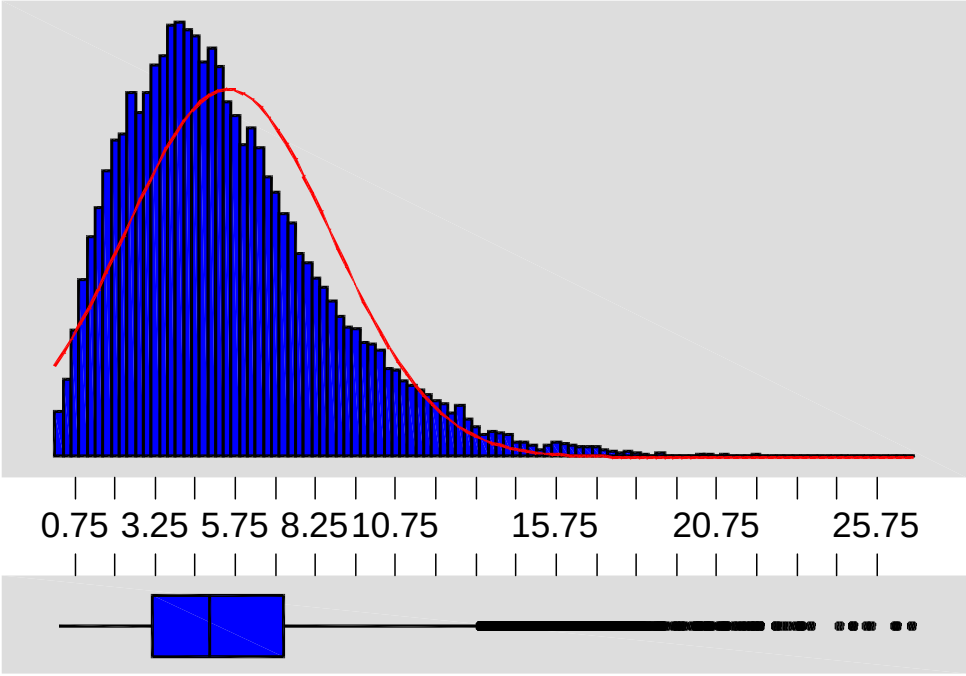
95% Confidence Interval for Sigma

3.4510	3.4997

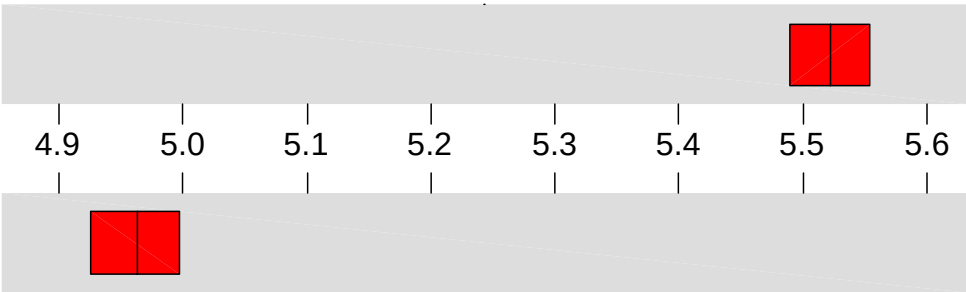
95% Confidence Interval for Median

4.8340	4.9140

Descriptive Statistics



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: NOR WS

Anderson-Darling Normality Test

A-Squared:	491.685
P-Value:	0.000
Mean	5.52181
StDev	3.22881
Variance	10.4252
Skewness	1.05753
Kurtosis	1.63967
N	38211
Minimum	0.2240
1st Quartile	3.1700
Median	4.9630
3rd Quartile	7.2600
Maximum	26.8400

95% Confidence Interval for Mu

5.4894	5.5542

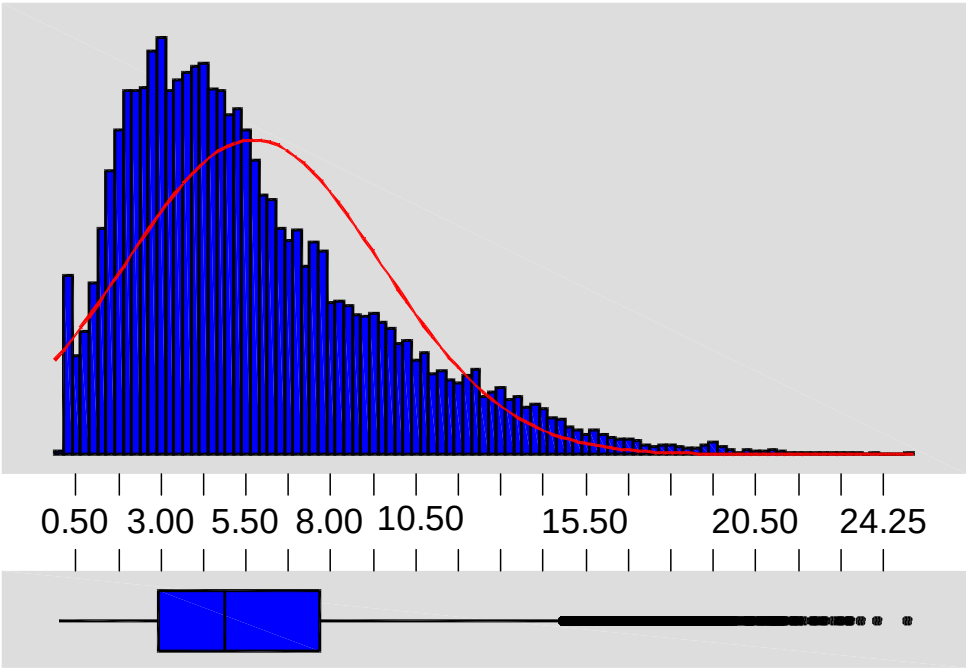
95% Confidence Interval for Sigma

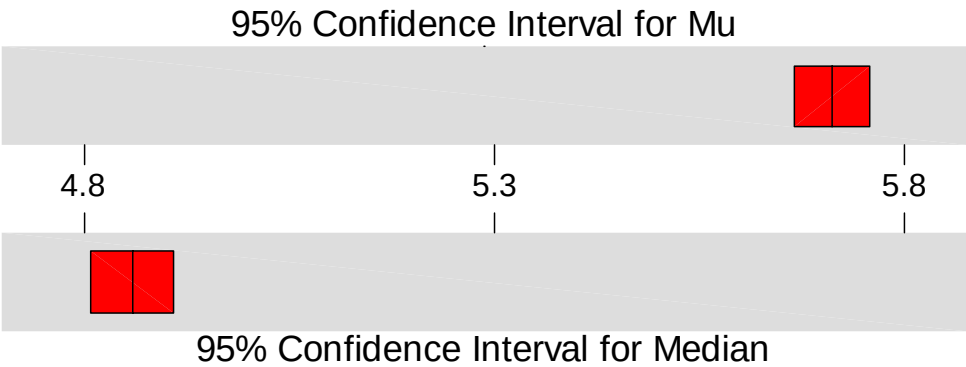
3.2061	3.2519

95% Confidence Interval for Median

4.9250	4.9970

Descriptive Statistics





Variable: COT WS

Anderson-Darling Normality Test

A-Squared:	507.622
P-Value:	0.000
Mean	5.71102
StDev	3.75881
Variance	14.1287
Skewness	1.07969
Kurtosis	1.09002
N	24973
Minimum	0.0000
1st Quartile	2.9130
Median	4.8580
3rd Quartile	7.6800
Maximum	24.9600

95% Confidence Interval for Mu

5.6644	5.7576

95% Confidence Interval for Sigma

3.7261	3.7921

95% Confidence Interval for Median

4.8070	4.9080