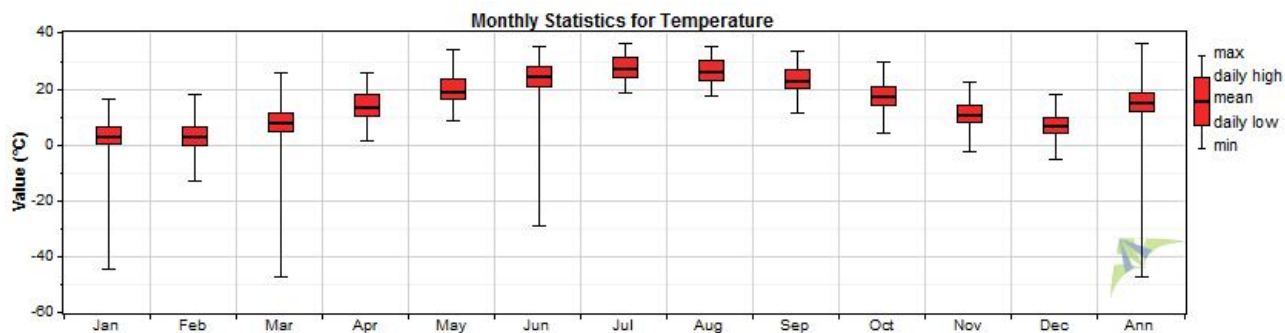


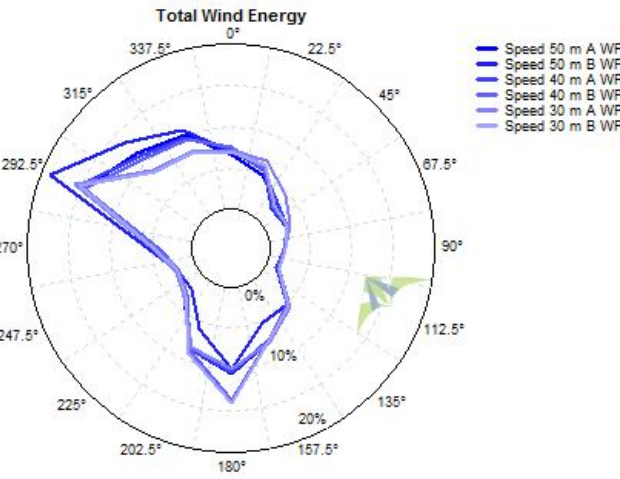
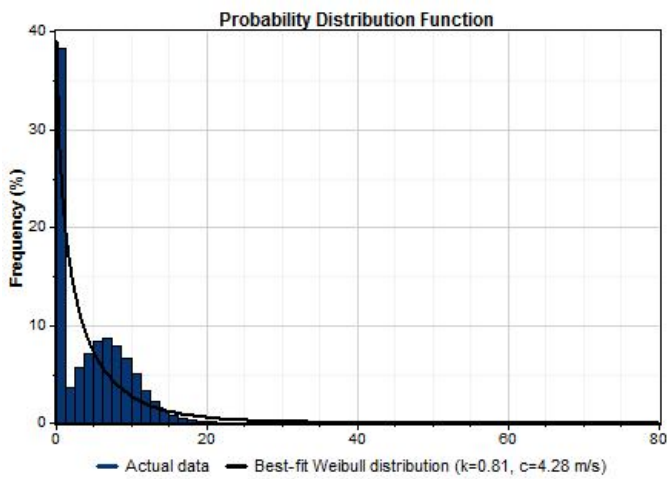
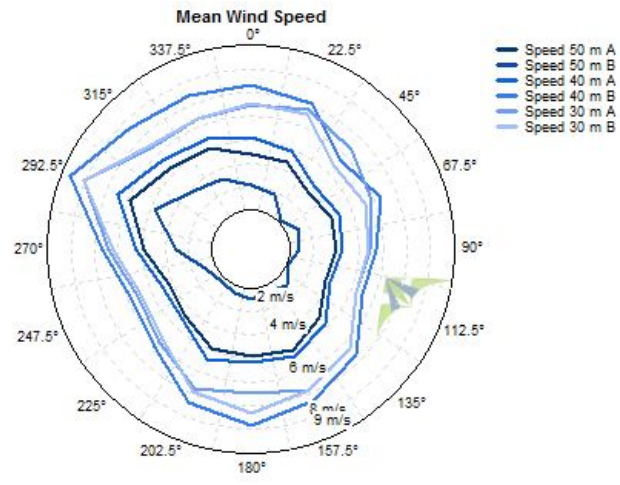
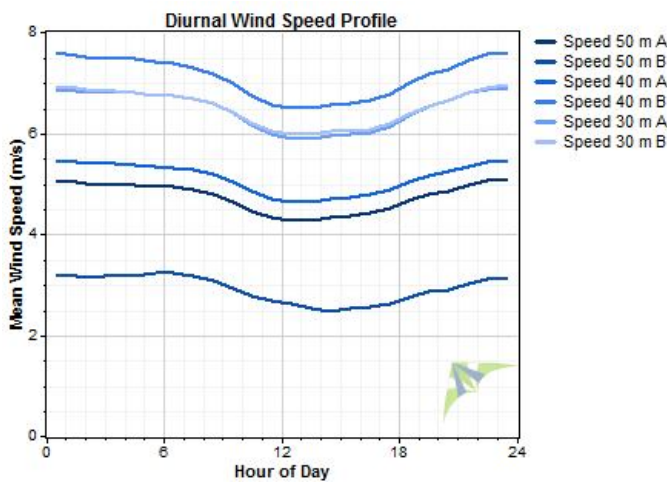
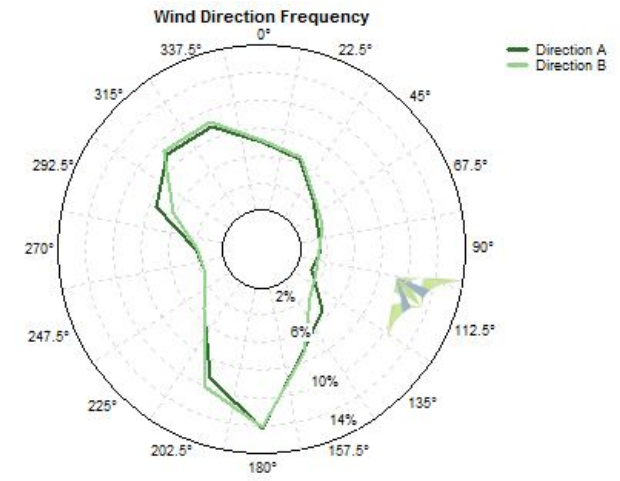
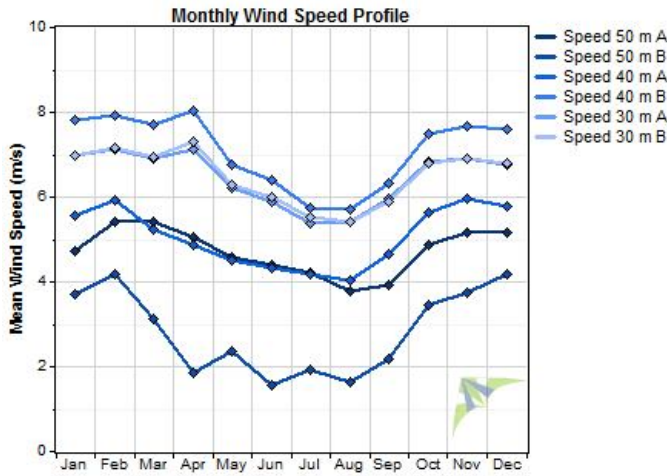
Data Set Properties

Report Created: 1/31/2017 12:44 using Windographer 3.3.11
 Filter Settings: <Unflagged data>

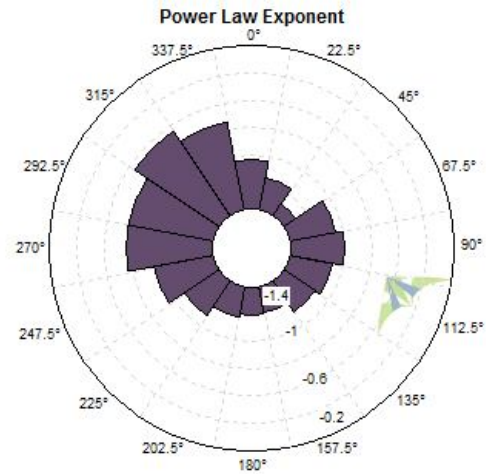
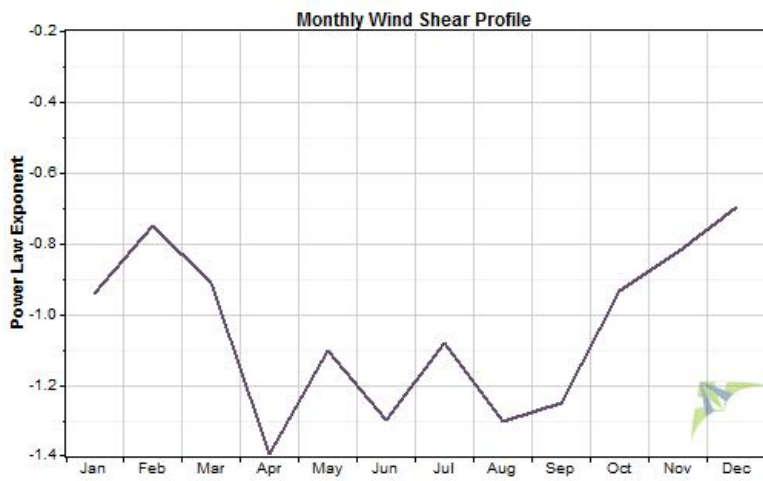
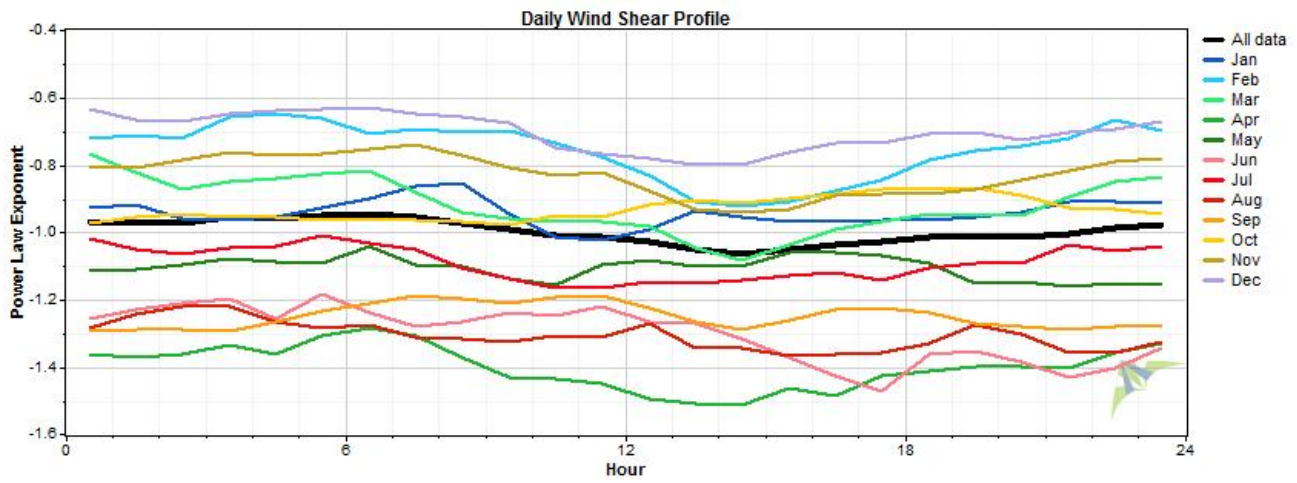
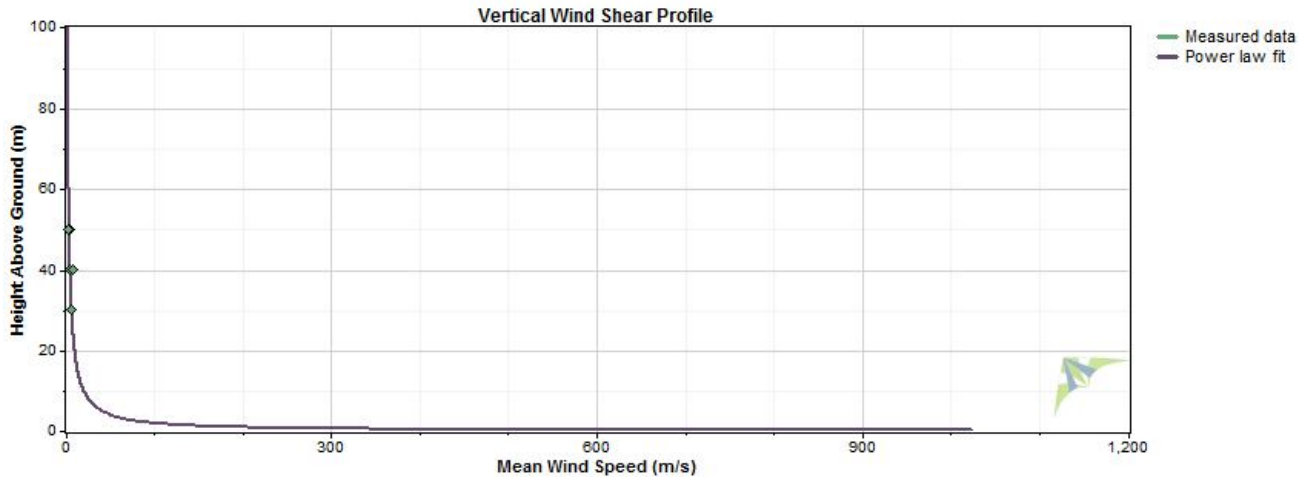
Variable	Value
Latitude	N 37.829684
Longitude	E -75.978076
Elevation	4 m
Start date	9/13/2009 00:00
End date	1/26/2017 14:00
Duration	7.4 years
Length of time step	10 minutes
Calm threshold	0 m/s
Mean temperature	14.9 °C
Mean pressure	101.2 kPa
Mean air density	1.225 kg/m ³
Power density at 50m	258 W/m ²
Wind power class	2 (Marginal)
Power law exponent	-0.996
Surface roughness	n/a
Roughness class	n/a



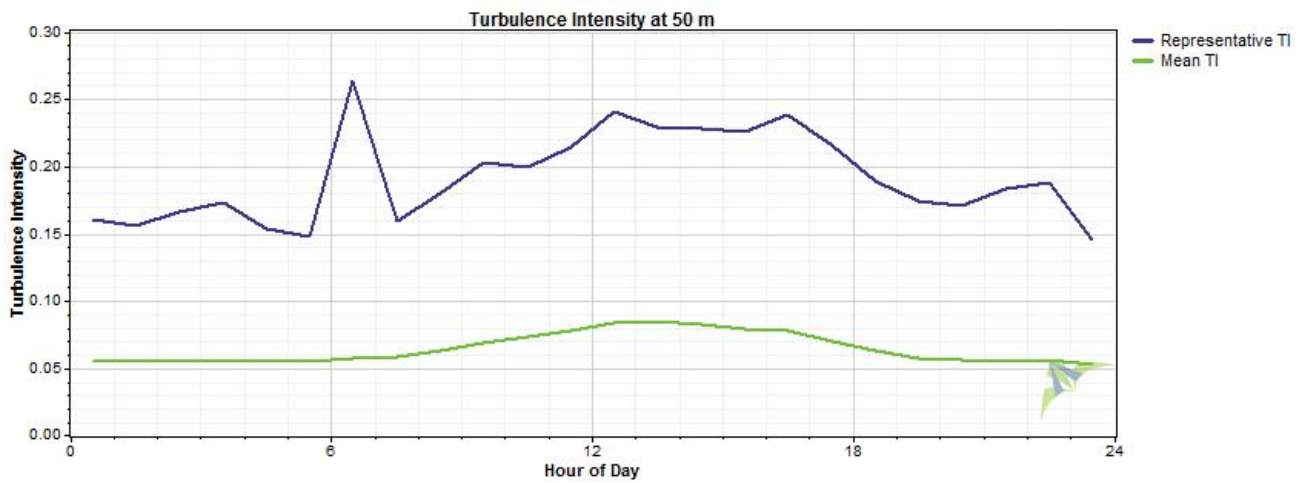
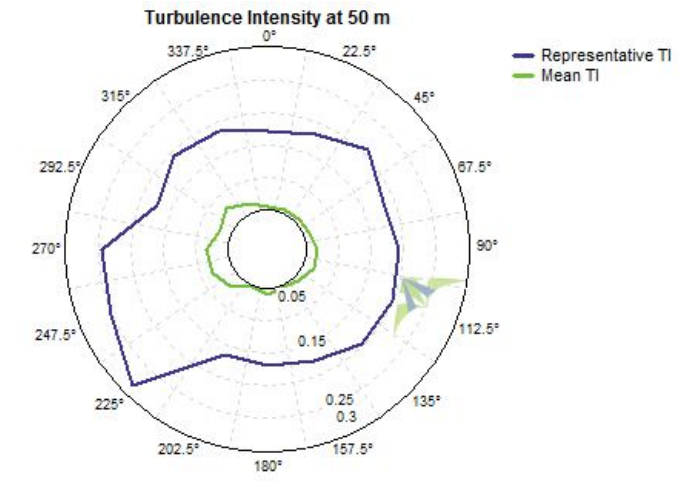
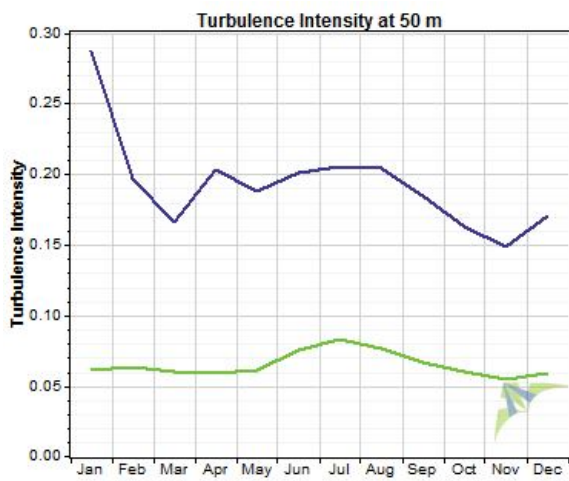
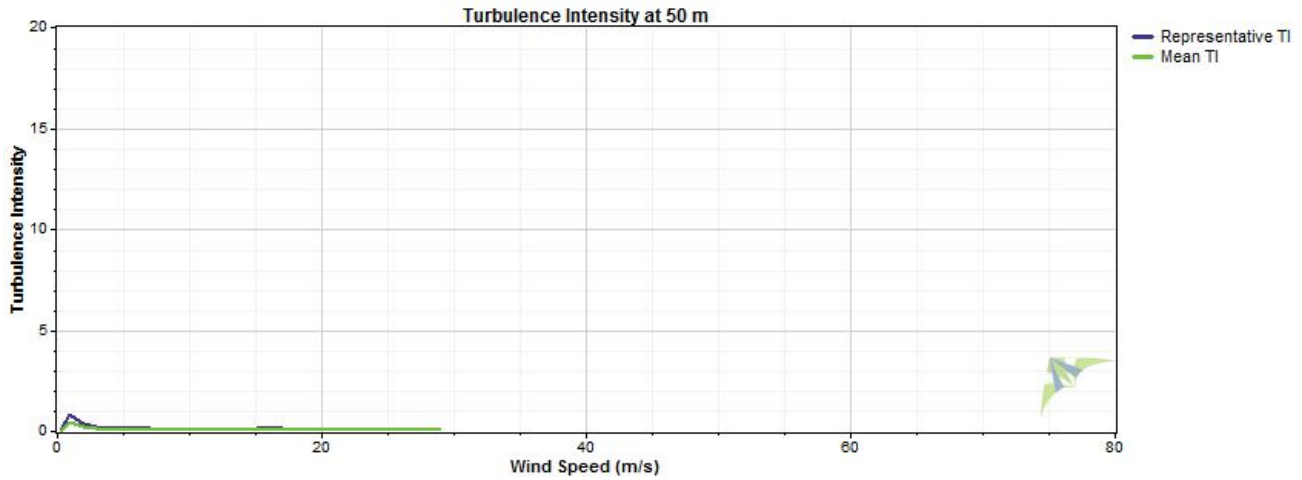
Wind Speed and Direction



Wind Shear



Turbulence Intensity



Environmental Summary

	Mean	Min	Max
Temperature (°C)	14.9	-47.4	36.0
Pressure (kPa)			
Air Density (kg/m3)	1.22	1.14	1.56

Wind Speed Sensor Summary

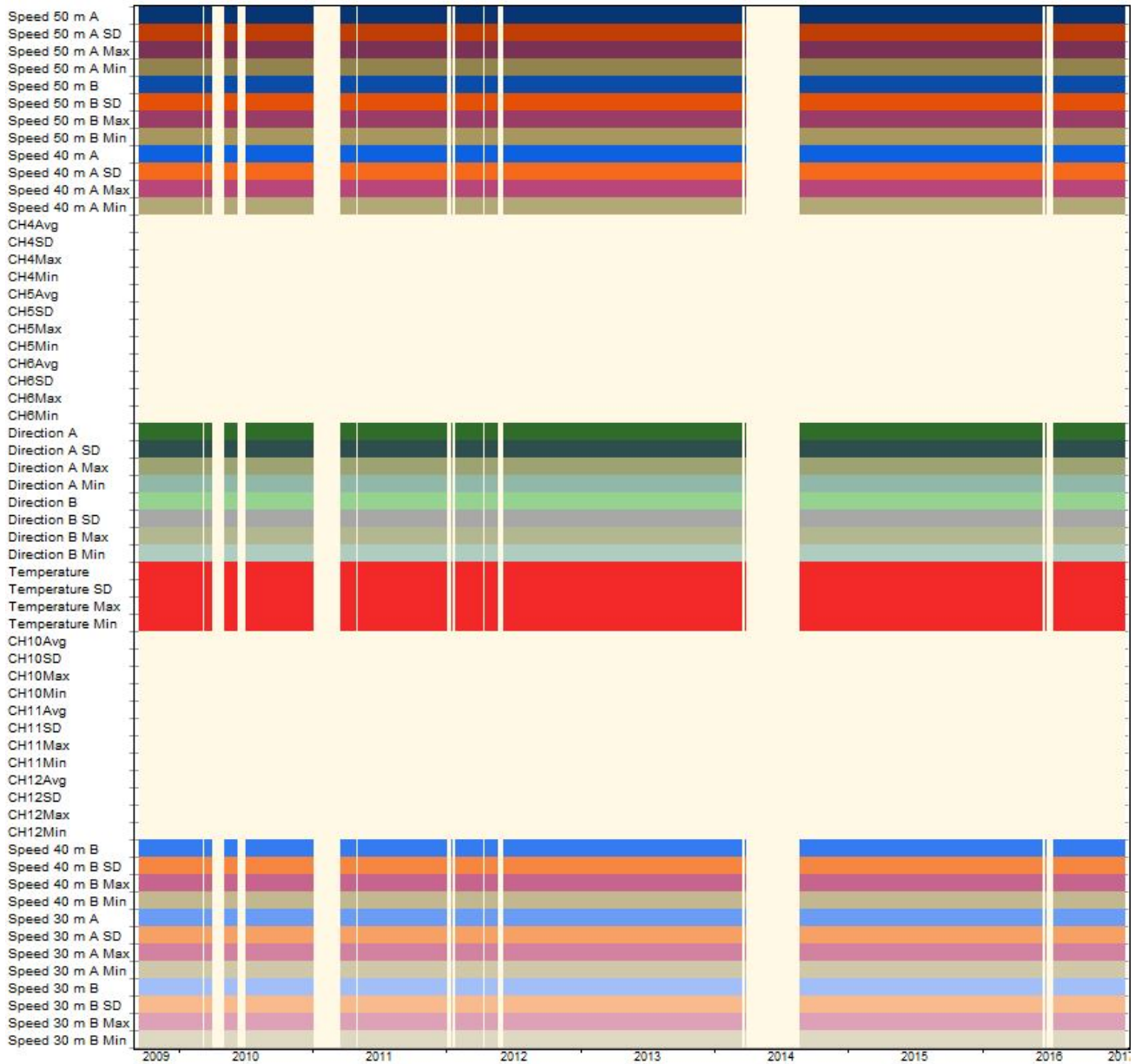
Wind Speed Sensor Summary					
Variable	Speed 50 m A	Speed 50 m B	Speed 40 m A	Speed 40 m B	Speed 30 m A
Measurement height (m)	50	50	40	40	30
Mean wind speed (m/s)	4.724	2.933	5.129	7.120	6.481
MoMM wind speed (m/s)	4.728	2.820	5.050	7.090	6.455
Median wind speed (m/s)	4.211	0.360	4.991	6.809	6.230
Min wind speed (m/s)	0.290	0.360	0.350	0.390	0.320
Max wind speed (m/s)	73.453	29.958	29.215	78.677	28.281
Weibull k	0.810	0.658	0.963	2.103	2.116
Weibull c (m/s)	4.278	2.053	5.050	8.028	7.305
Mean power density (W/m ²)	283	202	283	405	305
MoMM power density (W/m ²)	278	192	275	399	299
Mean energy content (kWh/m ² /yr)	2,482	1,771	2,483	3,552	2,668
MoMM energy content (kWh/m ² /yr)	2,436	1,686	2,412	3,495	2,623
Energy pattern factor	4.337	12.843	3.389	1.814	1.808
Frequency of calms (%)	0.00	0.00	0.00	0.00	0.00
Possible data points	387,732	387,732	387,732	387,732	387,732
Valid data points	336,268	336,268	336,273	336,273	336,273
Missing data points	51,464	51,464	51,459	51,459	51,459
Data recovery rate (%)	86.73	86.73	86.73	86.73	86.73
Variable	Speed 30 m B				
Measurement height (m)	30				
Mean wind speed (m/s)	6.512				
MoMM wind speed (m/s)	6.495				
Median wind speed (m/s)	6.268				
Min wind speed (m/s)	0.330				
Max wind speed (m/s)	80.602				
Weibull k	2.066				
Weibull c (m/s)	7.330				
Mean power density (W/m ²)	313				
MoMM power density (W/m ²)	308				
Mean energy content (kWh/m ² /yr)	2,739				
MoMM energy content (kWh/m ² /yr)	2,701				
Energy pattern factor	1.831				
Frequency of calms (%)	0.00				
Possible data points	387,732				
Valid data points	336,273				
Missing data points	51,459				
Data recovery rate (%)	86.73				

Flag Statistics

	Data Column	Time Steps Flagged As <Unflagged data>	Invalid
1	Speed 50 m A	336,268	5
2	Speed 50 m A SD	336,268	5
3	Speed 50 m A Max	336,268	5
4	Speed 50 m A Min	336,268	5
5	Speed 50 m B	336,268	5
6	Speed 50 m B SD	336,268	5
7	Speed 50 m B Max	336,268	5
8	Speed 50 m B Min	336,268	5
9	Speed 40 m A	336,273	0
10	Speed 40 m A SD	336,273	0
11	Speed 40 m A Max	336,273	0
12	Speed 40 m A Min	336,273	0
13	CH4Avg	0	0
14	CH4SD	0	0
15	CH4Max	0	0
16	CH4Min	0	0
17	CH5Avg	0	0
18	CH5SD	0	0
19	CH5Max	0	0
20	CH5Min	0	0
21	CH6Avg	0	0
22	CH6SD	0	0
23	CH6Max	0	0
24	CH6Min	0	0
25	Direction A	336,273	0
26	Direction A SD	336,273	0
27	Direction A Max	336,273	0
28	Direction A Min	336,273	0
29	Direction B	336,273	0
30	Direction B SD	336,273	0
31	Direction B Max	336,273	0
32	Direction B Min	336,273	0
33	Temperature	336,273	0
34	Temperature SD	336,273	0
35	Temperature Max	336,273	0
36	Temperature Min	336,273	0
37	CH10Avg	0	0
38	CH10SD	0	0
39	CH10Max	0	0
40	CH10Min	0	0
41	CH11Avg	0	0
42	CH11SD	0	0
43	CH11Max	0	0
44	CH11Min	0	0
45	CH12Avg	0	0
46	CH12SD	0	0
47	CH12Max	0	0
48	CH12Min	0	0
49	Speed 40 m B	336,273	0
50	Speed 40 m B SD	336,273	0
51	Speed 40 m B Max	336,273	0
52	Speed 40 m B Min	336,273	0

	Data Column	Time Steps Flagged As <Unflagged data>	Invalid
53	Speed 30 m A	336,273	0
54	Speed 30 m A SD	336,273	0
55	Speed 30 m A Max	336,273	0
56	Speed 30 m A Min	336,273	0
57	Speed 30 m B	336,273	0
58	Speed 30 m B SD	336,273	0
59	Speed 30 m B Max	336,273	0
60	Speed 30 m B Min	336,273	0
61	Power Law Exponent	336,268	0
62	Air Density	387,732	0
63	Speed 50 m A TI	336,268	5
64	Speed 50 m B TI	336,268	5
65	Speed 40 m A TI	336,273	0
66	Speed 40 m B TI	336,273	0
67	Speed 30 m A TI	336,273	0
68	Speed 30 m B TI	336,273	0
69	Speed 50 m A WPD	336,268	5
70	Speed 50 m B WPD	336,268	5
71	Speed 40 m A WPD	336,273	0
72	Speed 40 m B WPD	336,273	0
73	Speed 30 m A WPD	336,273	0
74	Speed 30 m B WPD	336,273	0

Data Coverage



Data Column Properties

#	Label	Units	Height	Possible Data Points	Valid Data Points	Recovery Rate (%)	Mean	Min	Max	Std. Dev
1	Speed 50 m A	m/s	50 m	387,732	336,268	86.73	4.739	0.290	73.453	4.487
2	Speed 50 m A SD	m/s	50 m	387,732	336,268	86.73	0.378	0.000	1,250.050	2.190
3	Speed 50 m A Max	m/s	50 m	387,732	336,268	86.73	5.637	0.290	96.935	5.272
4	Speed 50 m A Min	m/s	50 m	387,732	336,268	86.73	3.694	0.290	24.167	3.574
5	Speed 50 m B	m/s	50 m	387,732	336,268	86.73	2.923	0.360	29.958	4.342
6	Speed 50 m B SD	m/s	50 m	387,732	336,268	86.73	0.330	0.000	11.599	0.760
7	Speed 50 m B Max	m/s	50 m	387,732	336,268	86.73	3.684	0.360	35.182	5.334
8	Speed 50 m B Min	m/s	50 m	387,732	336,268	86.73	2.129	0.360	23.827	3.341
9	Speed 40 m A	m/s	40 m	387,732	336,273	86.73	5.122	0.350	29.215	4.266
10	Speed 40 m A SD	m/s	40 m	387,732	336,273	86.73	0.449	0.000	11.614	0.435
11	Speed 40 m A Max	m/s	40 m	387,732	336,273	86.73	6.190	0.350	35.218	5.105
12	Speed 40 m A Min	m/s	40 m	387,732	336,273	86.73	3.854	0.350	22.332	3.314
13	CH4Avg			387,732	0	0.00				
14	CH4SD			387,732	0	0.00				
15	CH4Max			387,732	0	0.00				
16	CH4Min			387,732	0	0.00				
17	CH5Avg			387,732	0	0.00				
18	CH5SD			387,732	0	0.00				
19	CH5Max			387,732	0	0.00				
20	CH5Min			387,732	0	0.00				
21	CH6Avg			387,732	0	0.00				
22	CH6SD			387,732	0	0.00				
23	CH6Max			387,732	0	0.00				
24	CH6Min			387,732	0	0.00				
25	Direction A	°	10 m	387,732	336,273	86.73	263.4	0.0	359.2	103.7
26	Direction A SD	°	10 m	387,732	336,273	86.73	5.6	0.0	132.7	5.2
27	Direction A Max	°	10 m	387,732	336,273	86.73	0.0	0.0	0.0	0.0
28	Direction A Min	°	10 m	387,732	336,273	86.73	0.0	0.0	0.0	0.0
29	Direction B	°	10 m	387,732	336,273	86.73	267.3	0.0	359.2	104.6
30	Direction B SD	°	10 m	387,732	336,273	86.73	6.3	0.0	132.7	5.6
31	Direction B Max	°	10 m	387,732	336,273	86.73	0.0	0.0	0.0	0.0
32	Direction B Min	°	10 m	387,732	336,273	86.73	0.0	0.0	0.0	0.0
33	Temperature	°C	2 m	387,732	336,273	86.73	14.9	-47.4	36.0	9.3
34	Temperature SD	°C	2 m	387,732	336,273	86.73	0.1	0.0	1.9	0.1
35	Temperature Max	°C	2 m	387,732	336,273	86.73	15.1	-47.1	36.2	9.3
36	Temperature Min	°C	2 m	387,732	336,273	86.73	14.8	-47.6	35.9	9.3
37	CH10Avg			387,732	0	0.00				
38	CH10SD			387,732	0	0.00				
39	CH10Max			387,732	0	0.00				
40	CH10Min			387,732	0	0.00				
41	CH11Avg			387,732	0	0.00				
42	CH11SD			387,732	0	0.00				
43	CH11Max			387,732	0	0.00				
44	CH11Min			387,732	0	0.00				
45	CH12Avg			387,732	0	0.00				
46	CH12SD			387,732	0	0.00				
47	CH12Max			387,732	0	0.00				
48	CH12Min			387,732	0	0.00				
49	Speed 40 m B	m/s	40 m	387,732	336,273	86.73	7.120	0.390	78.677	3.533
50	Speed 40 m B SD	m/s	40 m	387,732	336,273	86.73	0.626	0.000	1,363.189	2.381
51	Speed 40 m B Max	m/s	40 m	387,732	336,273	86.73	8.596	0.390	97.035	4.126
52	Speed 40 m B Min	m/s	40 m	387,732	336,273	86.73	5.369	0.390	23.509	2.954

#	Label	Units	Height	Possible Data Points	Valid Data Points	Recovery Rate (%)	Mean	Min	Max	Std. Dev
53	Speed 30 m A	m/s	30 m	387,732	336,273	86.73	6.481	0.320	28.281	3.192
54	Speed 30 m A SD	m/s	30 m	387,732	336,273	86.73	0.701	0.000	7.211	0.441
55	Speed 30 m A Max	m/s	30 m	387,732	336,273	86.73	8.164	0.320	37.841	3.911
56	Speed 30 m A Min	m/s	30 m	387,732	336,273	86.73	4.519	0.320	22.302	2.565
57	Speed 30 m B	m/s	30 m	387,732	336,273	86.73	6.511	0.330	80.602	3.263
58	Speed 30 m B SD	m/s	30 m	387,732	336,273	86.73	0.704	0.000	1,363.189	2.392
59	Speed 30 m B Max	m/s	30 m	387,732	336,273	86.73	8.183	0.330	96.975	3.953
60	Speed 30 m B Min	m/s	30 m	387,732	336,273	86.73	4.569	0.330	21.175	2.691
61	Power Law Exponent			387,732	336,268	86.73	-1.956	-8.268	5.713	2.301
62	Air Density	kg/m ³		387,732	387,732	100.00	1.225	1.141	1.562	0.037
63	Speed 50 m A TI			387,732	336,268	86.73	0.06	0.00	17.02	0.10
64	Speed 50 m B TI			387,732	336,268	86.73	0.08	0.00	3.35	0.26
65	Speed 40 m A TI			387,732	336,273	86.73	0.07	0.00	2.83	0.08
66	Speed 40 m B TI			387,732	336,273	86.73	0.10	0.00	17.33	0.08
67	Speed 30 m A TI			387,732	336,273	86.73	0.12	0.00	1.92	0.08
68	Speed 30 m B TI			387,732	336,273	86.73	0.13	0.00	16.91	0.10
69	Speed 50 m A WPD	W/m ²		387,732	336,268	86.73	283	0	250,443	745
70	Speed 50 m B WPD	W/m ²		387,732	336,268	86.73	202	0	17,206	590
71	Speed 40 m A WPD	W/m ²		387,732	336,273	86.73	283	0	15,957	565
72	Speed 40 m B WPD	W/m ²		387,732	336,273	86.73	405	0	306,733	819
73	Speed 30 m A WPD	W/m ²		387,732	336,273	86.73	305	0	14,476	500
74	Speed 30 m B WPD	W/m ²		387,732	336,273	86.73	313	0	329,809	753