

Appendix I: Background Noise Monitoring Report

Rye Park Wind Farm

Background Noise Monitoring

S3200.2C3

July 2020

sonus.

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INTRODUCTION

Background noise monitoring has previously been conducted in the vicinity of the Rye Park Wind Farm by Epuron. This monitoring was conducted during the period between 8 June 2012 and 22 August 2012, and was conducted at 20 locations across the wind farm site.

Sonus has been engaged by Tilt Renewables (Tilt) to conduct additional background monitoring prior to construction, in locations that were not included in the original monitoring regime. This additional monitoring was conducted between 16 January 2020 and 28 March 2020 at a further 5 locations.

The noise data measured at each monitoring location has been correlated with wind speed referenced to an assumed hub height of 119m. As the likely hub height has changed since the time of the original background noise assessment, the correlations for the original 20 locations have been updated to account for the likely change in hub height.

This report provides the methodology for the current round of monitoring, as well as the results of both the current and original background monitoring regimes. From the measured background noise levels, criteria are assigned for all residences in the vicinity.

ORIGINAL NOISE MONITORING

Location

The original noise monitoring regime was conducted at 20 locations across the wind farm site. These locations have been provided in Table 1, and circled in Figures 1 and 2 below. A full list of the residences and coordinates are shown in Appendix D.

Table 1: Original Monitoring Locations Coordinates.

Coordinates (UTM WGS84 55 H)			Coordinates (UTM WGS84 55 H)		
Location	Easting	Northing	Location	Easting	Northing
R02	678095	6185733	R36	679988	6173811
R06	681484	6184020	R41	681802	6168516
R14	677807	6183115	R44	679986	6166322
R16	677297	6181991	R46	681835	6164679
R20	676130	6181544	R49	680667	6162540
R128	678848	6183498	R51	680970	6161588
R25	677075	6178323	R52	684135	6161246
R30	682495	6177218	R54	683514	6155819
R32	680416	6176683	R56	686567	6153140
R34	681817	6174338	R60	684244	6149529

Wind Speed Data

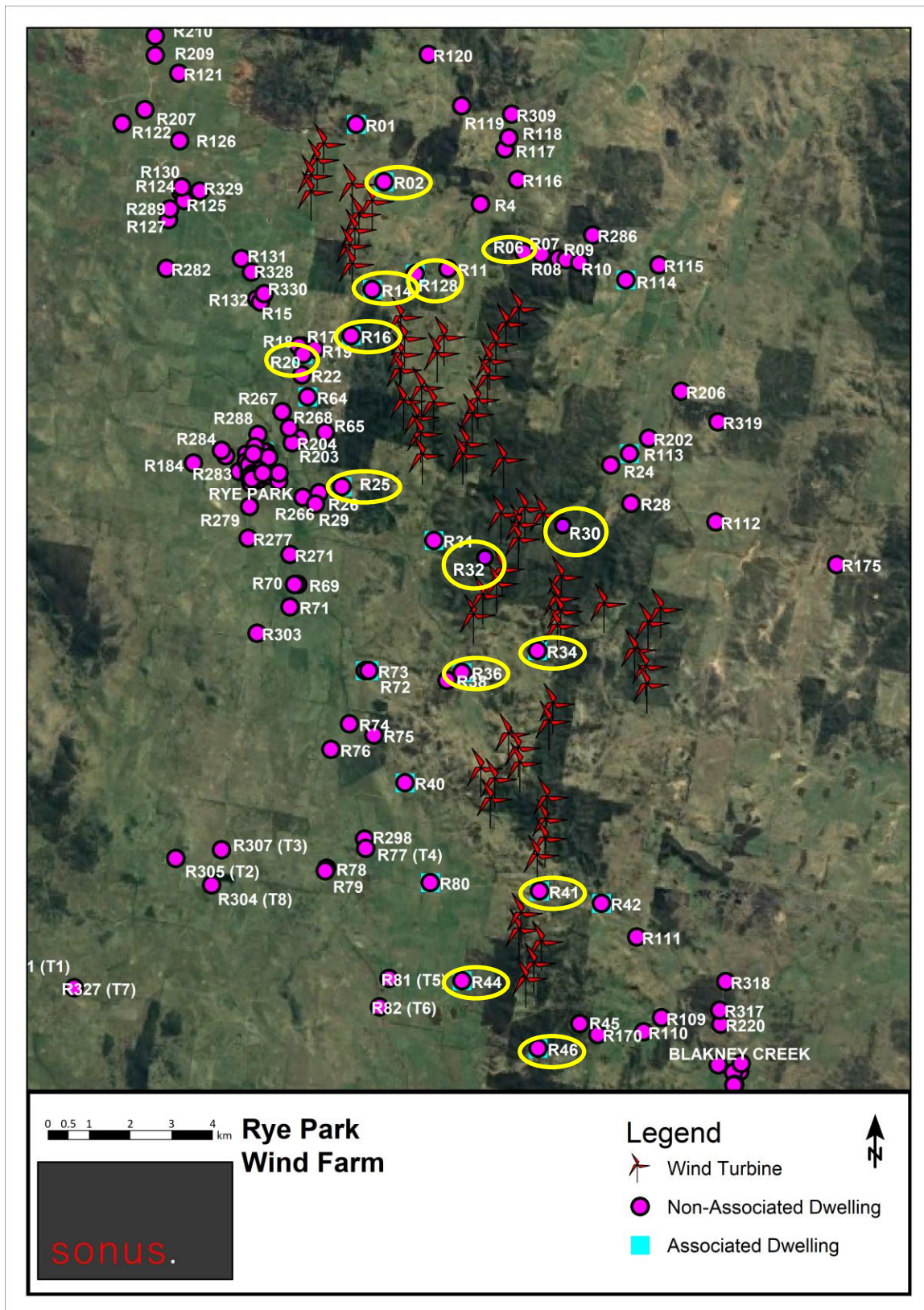
During the monitoring period, wind data were collected at four separate wind masts in different locations on the site. The coordinates of these wind masts, as well as the closest residences are shown in Table 2.

Table 2: Wind Mast Locations and Nearest Monitoring Locations.

Wind Mast	Coordinates (UTM WGS84 55 H)		Highest Measurement Point	Nearest Background Locations
	Easting	Northing		
RYP_2	676503	6186530	49m	R02, R06, R14, R16, R20, R128
RYP_3	682046	6170278	70m	R25, R30, R32, R34, R36, R41, R44
RYP_4	682325	6162517	70m	R46, R49, R51, R52
YJ	684969	6152742	60m	R54, R56, R60

The wind data were measured at various heights above ground on each mast, with the highest point for each mast shown in Table 2 above. The data have been sheared up to a height of 119m above ground.

Figure 1: Original Monitoring Locations Aerial Photo (Northern Section).



Rye Park Wind Farm

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Legend

- Wind Turbine
- Non-Associated Dwelling
- Associated Dwelling

0 0.5 1 2 3 km

BLAKNEY CREEK

R46, R49, R51, R52, R54, R56, R60, R59

R83, R48, R47, R50, R324, R85, R53, R86, R68, R108, R107, R218, R106, R66, R67, R102, R315, R104, R314, R103, R105, R296, R159, R158, R326, R244, R157, R87, R156, R88, R243, R155, R89, R262, R213, R154, R246, R214, R152, R323, R149, R148, R147, R145, R90, R91, R294, R92, R94, R135, R93, R133, R95, R291, R137, R138, R139, R140, R141, R129, R142, R143, R144, R146, R212, R153, R151, R295, R99, R101, R313, R216, R296

Data Analysis

Rain data were also recorded throughout the monitoring period at a central location on the site. The measured rain data have been taken to be indicative of conditions across the whole site during the monitoring period. Any periods where rain was detected have been excluded from the analysis.

Data below the cut in wind speed were also removed. As the turbine selection has not yet been finalised, a cut in wind speed of 3m/s has been used, which is typical of modern turbine models.

After the data removal process, the following number of points remained for each monitoring location.

Table 3: Data Points Remaining at each Monitoring Location.

Location	Data Points	Location	Data Points
R02	2365	R36	2188
R06	2382	R41	3372
R14	3501	R44	2445
R16	3243	R46	2553
R20	2434	R49	2742
R128	3053	R51	3398
R25	2721	R52	2859
R30	2402	R54	2647
R32	2473	R56	2795
R34	2238	R60	2547

Background Noise Correlation

The background noise data collected at each monitoring location were correlated with the sheared wind speed at the nearest wind mast for a hub height of 119m for each 10 minute period.

A least squares regression analysis of the data was undertaken to determine the line of best fit for the correlations. The data and the regression curves are shown in Appendix B¹.

Based on the line of best fit in Appendix B, the background noise level ($L_{A90,10min}$) can be determined for each integer wind speed.

¹ While noise monitoring was conducted at R14, R16 and R34, these locations are associated residences and are not used as a proxy for other locations. As such, the correlation graphs have no bearing on the criteria and so have been omitted from this report.

Table 4 summarises the background noise level for each integer wind speed at a hub height of 119m, between 3 and 12 m/s:

Table 4: Background Noise Levels ($L_{A90,10min}$) at Original Monitoring Locations (dB(A)).

Location	Wind Speed (m/s) at 119m									
	3	4	5	6	7	8	9	10	11	12
R02	32	29	28	28	28	29	31	33	35	37
R06	26	26	27	27	28	29	29	30	31	32
R20	32	31	31	31	31	32	32	33	34	35
R128	28	28	29	29	30	30	31	32	34	35
R25	24	24	24	24	24	25	25	26	26	27
R30	25	27	28	29	29	30	31	32	32	33
R32	30	29	29	30	30	31	31	32	33	34
R36	24	23	23	22	23	23	24	24	25	26
R41	21	20	20	21	22	23	25	27	29	31
R44	26	25	25	25	26	26	27	29	30	32
R46	26	26	26	27	27	28	29	30	32	34
R49	26	26	26	26	27	28	29	31	32	34
R51	29	27	26	26	27	28	29	31	32	34
R52	29	28	28	28	28	28	29	30	31	32
R54	29	31	32	33	33	34	35	36	38	40
R56	26	26	26	26	27	28	30	31	33	35
R60	32	31	31	31	32	33	34	36	38	40

Operational Noise Criteria

Based on the background noise levels measured, the criteria at the different residences can be determined. The criteria for non-associated residences are defined as the higher of 35 dB(A) or the background noise level plus 5 dB(A) for each integer wind speed. Where a residence is associated with the wind farm, the criteria become 45 dB(A) across all wind speeds. The criteria for each measurement location and other representative residences are shown in Table 5 below.

Table 5: Criteria at Previous Monitoring Locations (dB(A)).

Measurement Location	Associated/ Non-Associated	Representative Locations	Wind Speed (m/s) at 119m									
			3	4	5	6	7	8	9	10	11	12
R02	Yes	R01, R02	45	45	45	45	45	45	45	45	45	45
	No	R117, R118, R119, R120, R309	35	35	35	35	35	35	36	38	40	42
R06	Yes	R114	45	45	45	45	45	45	45	45	45	45
	No	R04, R06, R07, R08, R09, R10, R115, R116, R286	35	35	35	35	35	35	35	35	36	37
R14	Yes	R14	45	45	45	45	45	45	45	45	45	45
R16	Yes	R16	45	45	45	45	45	45	45	45	45	45
R20	Yes	R20, R64	45	45	45	45	45	45	45	45	45	45
	No	R19, R22, R267, R268, R288	36	36	36	36	36	37	37	38	39	40
R128	Yes	R128	45	45	45	45	45	45	45	45	45	45
	No	R11	35	35	35	35	35	35	36	37	39	40
R25	Yes	R25, R192	45	45	45	45	45	45	45	45	45	45
	No	R26, R29, R65, R69, R70, R71, R184, R203, R204, R266, R271, R277, R279, R283, R284, R303, Rye Park Township	35	35	35	35	35	35	35	35	35	35
R30	No	R30	35	35	35	35	35	35	36	37	37	38
R32	Yes	R31	45	45	45	45	45	45	45	45	45	45
	No	R32	35	35	35	35	35	36	36	37	38	39
R34	Yes	R34	45	45	45	45	45	45	45	45	45	45
R36	Yes	R36, R72, R73,	45	45	45	45	45	45	45	45	45	45
	No	R38, R74, R75, R76	35	35	35	35	35	35	35	35	35	35

Measurement Location	Associated/ Non-Associated	Representative Locations	Wind Speed (m/s) at 119m									
			3	4	5	6	7	8	9	10	11	12
R41	Yes	R41, R42	45	45	45	45	45	45	45	45	45	45
	No	R111	35	35	35	35	35	35	35	35	35	36
R44	Yes	R44	45	45	45	45	45	45	45	45	45	45
	No	R81, R82	35	35	35	35	35	35	35	35	35	37
R46	Yes	R46	45	45	45	45	45	45	45	45	45	45
	No	R45, R109, R110, R170, R220, R317, R318	35	35	35	35	35	35	35	35	37	39
R49	Yes	R49	45	45	45	45	45	45	45	45	45	45
	No	R47, R48, R83	35	35	35	35	35	35	35	36	37	39
R51	Yes	R51	45	45	45	45	45	45	45	45	45	45
	No	R50, R53, R85, R86, R158, R159, R324, R326	35	35	35	35	35	35	35	36	37	39
R52	Yes	R52, R66	45	45	45	45	45	45	45	45	45	45
	No	R67, R68, R102, R103, R104, R105, R106, R107, R108, R218, R296, R314, R315, Blakney Creek Township	35	35	35	35	35	35	35	35	36	37
R54	Yes	R54	45	45	45	45	45	45	45	45	45	45
	No	R87, R88, R89, R149, R152, R154, R155, R156, R157, R213, R214, R217, R243, R244, R246, R259, R262, R323	35	36	37	38	38	39	40	41	43	45
R56	Yes	R56	45	45	45	45	45	45	45	45	45	45
	No	R99, R101, R144, R146, R151, R153, R216, R295, R313	35	35	35	35	35	35	35	36	38	40
R60	Yes	R59, R60, R61	45	45	45	45	45	45	45	45	45	45
	No	R63, R90, R91, R92, R93, R94, R95, R96, R97, R98, R100, R129, R133, R135, R137, R138, R139, R140, R141, R142, R143, R145, R147, R148, R211, R290, R291, R294, R308	36	36	36	36	37	38	39	41	43	45

It is noted that where the background noise level increased at lower wind speeds, the criteria in the above table have been limited. That is, if the background noise level at 3 m/s was higher than the noise level at 4 m/s, the value at 4 m/s has been used for both wind speeds. Values in the above table that have been limited in this way have been shown in **red**.

Residences close to the townships of Rye Park and Blakney Creek have been grouped together for ease of readability in the above table. The full list of locations that have been included within each township are shown in Table 6 below.

Table 6: Locations Included in Township Areas

Township	Included Locations
Rye Park Township	R276, R188, R189, R310, R190, R191, R230, R186, R185, R193, R194, R195, R196, R234, R232, R197, R187, R200, R180, R274, R272, R278, R226, R199, R198, R179, R325, R177, R183, R270, R269, R280, R281, R181, R292, R223, R182
Blakney Creek Township	R160, R161, R162, R163, R164, R165, R166, R168, R169, R219, R316

ADDITIONAL NOISE MONITORING

Additional background noise monitoring was conducted at five locations over the course of two separate periods, as described in Table 7.

Table 7: Additional Noise Monitoring Periods.

Location	Monitoring Period(s)
R16	27/02/2020 to 27/03/2020
R18	16/01/2020 to 26/02/2020
R80	16/01/2020 to 26/02/2020
R113	27/02/2020 to 28/03/2020
R330	16/01/2020 to 27/02/2020

Location

A noise logger was positioned on the wind farm side of each dwelling, at an equivalent distance to major trees as the dwellings. Noise monitoring locations are provided in Table 8 and circled in Figure 3 below. A photograph of the noise monitoring equipment at each location is provided in Appendix A.

Table 8: Additional Monitoring Locations Coordinates.

Coordinates (UTM WGS84 55 H)		
Location	Easting	Northing
R16	677319	6181986
R18	676034	6181759
R80	679214	6168723
R113	683691	6179223
R330	675206	6183020

It is noted that the logger at R113 was positioned at a position to be a proxy for R24 and R28 as access to these properties was not available.

Equipment

The background noise was measured in 10 minute intervals with a Rion Type 1 sound level meter with a noise floor of less than 20 dB(A), calibrated at the beginning and end of the measurement period with a Rion Calibrator. The microphones were positioned approximately 1.5 m above ground level and fitted with a wind shield with a diameter of at least 150mm. An example of a typical on-site setup is shown in Figure 4 below.

Figure 3: Additional Monitoring Locations Aerial Photo.

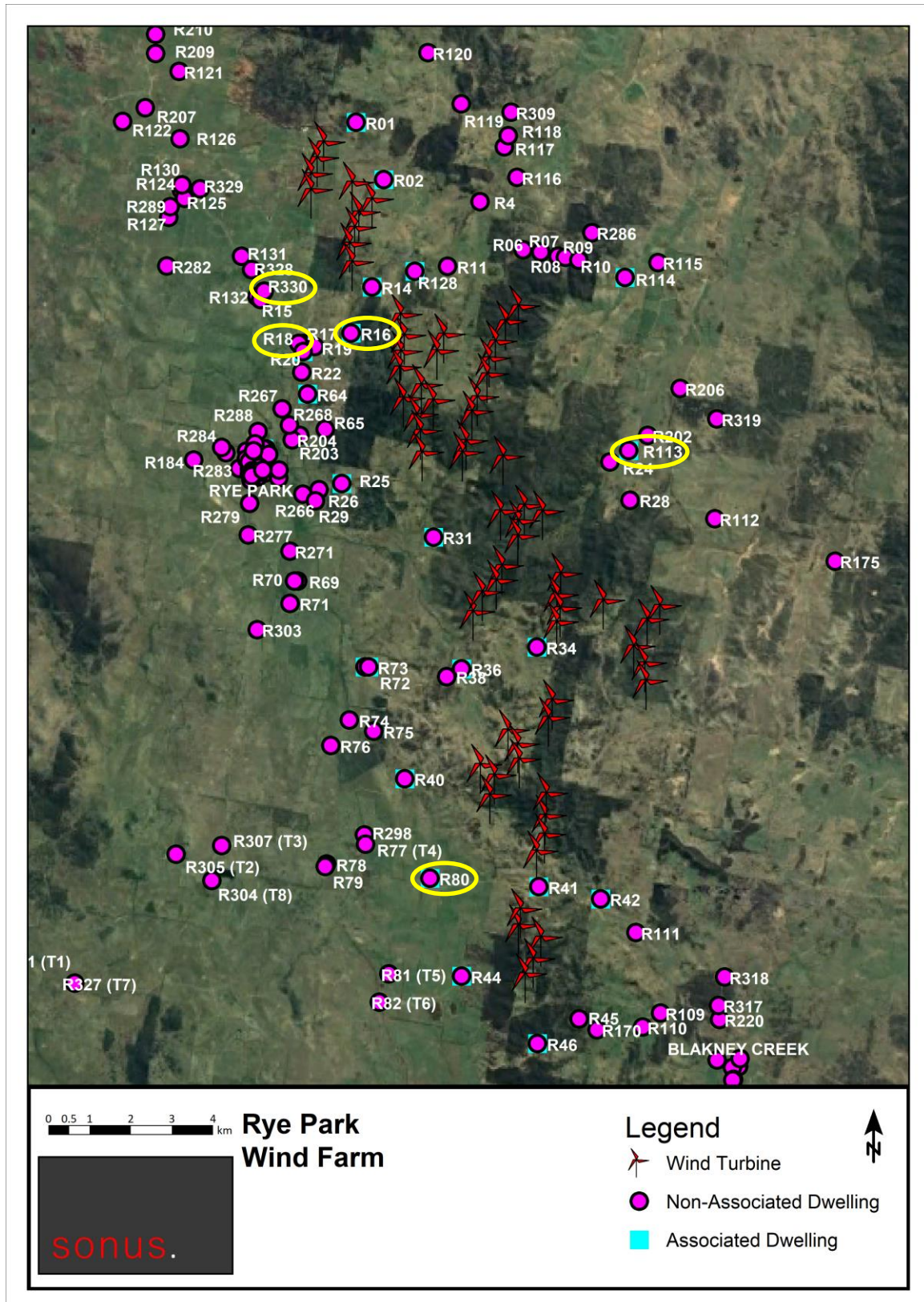
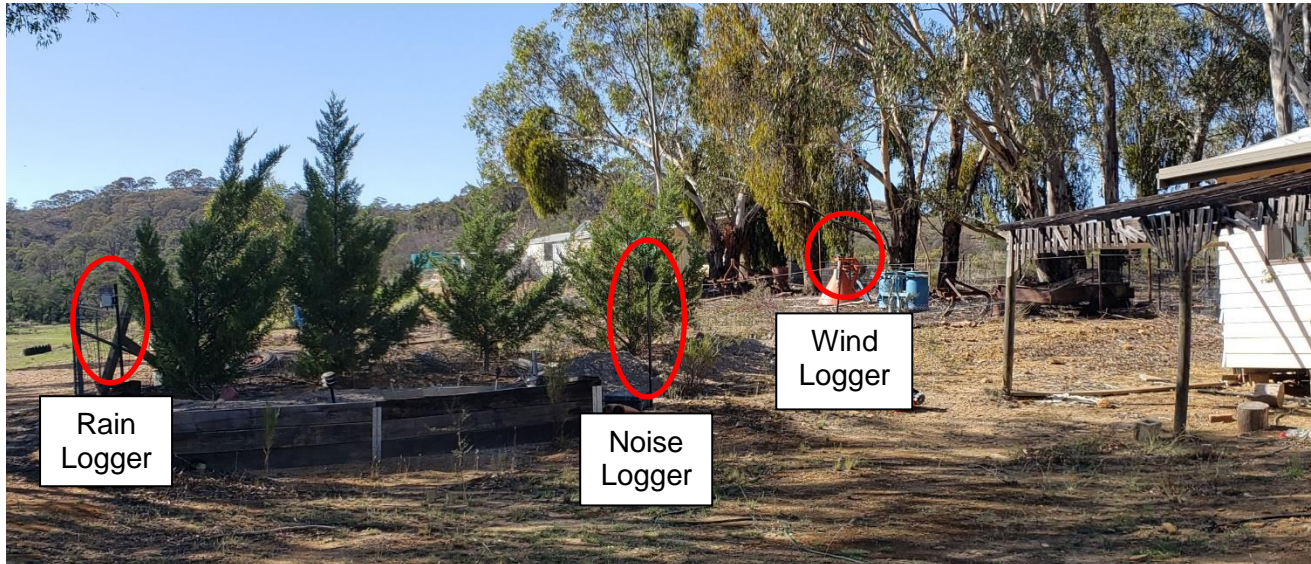


Figure 4: Typical Monitoring Location Setup



Hub Height Wind Speed

During the background noise monitoring, the hub height wind speeds were measured in 10 minute intervals using three wind masts. Table 9 provides the details of the closest wind mast to each monitoring location.

Table 9: Closest Wind Mast to Additional Monitoring locations.

Location	Closest Wind Mast
R16	RYP6
R18	RYP6
R80	RYP3
R113	RYP8
R330	RYP6

The background noise data were correlated with wind speeds at a hub height of 119m at the wind mast closest to the monitoring location. The wind data was sheared to a height of 119m from the highest measured point on the wind mast before being provided to Sonus.

Data Analysis

During the background noise monitoring period, wind speed at the microphone location (approximately 1.5m above ground level) was measured using “Rainwise” wind speed loggers. Wind speed at R330 was based on the measurements from R18. At R18 and R16 rainfall was also recorded. The rainfall and wind speed data were used to determine the periods when weather may have affected the background noise measurements.

Data within these periods were discarded. This includes periods where rainfall was measured and/or where the measured wind speed exceeded 5 m/s at the microphone for more than 90% of the measurement period. The rainfall loggers at R18 and R16 were taken to be indicative of rainfall at the other monitoring locations for their respective measurement periods. Any data for wind speeds below the cut in wind speed (3m/s) were also removed.

Following the data removal procedure, the following number of points remained for each of the monitoring locations;

Table 10: Data Points Remaining at each Monitoring Location

Location	Data Points
R16	3901
R18	5250
R80	5306
R113	3957
R330	5258

Background Noise Correlation

The background noise data collected at each monitoring location was correlated with the sheared wind speed at the nearest wind mast for an indicative hub height of 119m for each 10 minute period.

A least squares regression analysis of the data was undertaken to determine the line of best fit for the correlations. The data and the regression curves are shown in Appendix C². Based on the line of best fit in Appendix C, the background noise level ($L_{A90,10min}$) can be determined for each integer hub height wind speed.

Table 11 summarises the background noise level for each integer wind speed at an indicative hub height of 119m, between 3 and 12 m/s:

² While noise monitoring was conducted at R16, this location is an associated residence, and is not representative of the conditions at other locations. As such, the correlation graph has no bearing on the criteria, and so has been omitted from this report.

Table 11: Background Noise Levels ($L_{A90,10min}$) at Additional Monitoring Locations (dB(A)).

Location	Wind Speed (m/s) at 119m									
	3	4	5	6	7	8	9	10	11	12
R18	27	27	28	29	30	31	33	34	36	37
R80	27	28	28	29	30	32	33	35	36	38
R113	19	19	19	20	21	22	24	25	27	30
R330	33	32	33	33	34	35	36	37	38	40

Operational Noise Criteria

For residences not associated with the wind farm, the appropriate criteria are determined as the higher of 35 dB(A) or the background noise level plus 5 dB(A). Where a residence is associated with the wind farm, the criteria are 45 dB(A) regardless of the wind speed. Based on this, the criteria for each of the additional measurement locations are shown in Table 12 below. These measurement locations have also been used as representative of the background noise at other locations, where background noise has not been measured. These are also shown in Table 12. Where the noise level has been limited due to a higher value at lower wind speeds, the limited values are shown in **red**.

Table 12: Criteria at Additional Monitoring Locations (dB(A)).

Measurement Location	Associated/ Non-Associated	Representative Locations	Wind Speed (m/s) at 119m									
			3	4	5	6	7	8	9	10	11	12
R16	Yes	R16	45	45	45	45	45	45	45	45	45	45
R18	No	R17, R18	35	35	35	35	35	36	38	39	41	42
R80	Yes	R40, R80	45	45	45	45	45	45	45	45	45	45
	No	R77, R78, R79, R298, R304, R305, R307, R311, R327	35	35	35	35	35	37	38	40	41	43
R113	Yes	R113	45	45	45	45	45	45	45	45	45	45
	No	R24, R28, R112, R175, R202, R206, R319	35	35	35	35	35	35	35	35	35	35
R330	No	R15, R121, R122, R124, R125, R126, R127, R130, R131, R132, R207, R209, R210, R282, R289, R328, R329, R330	37	37	38	38	39	40	41	42	43	45

Appendix A: Photograph of logger at additional monitoring locations

Figure 5: R16 monitoring location.



Figure 6: R18 monitoring location.



Figure 7: R80 monitoring location.



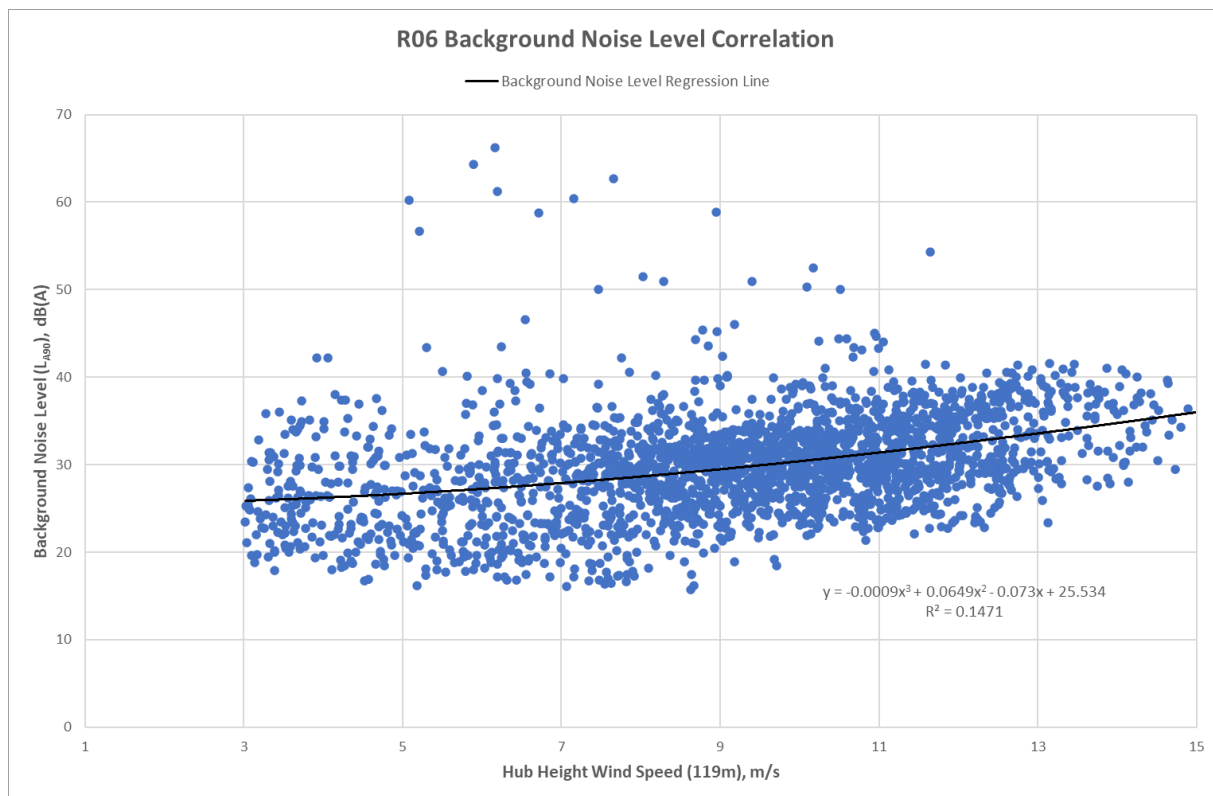
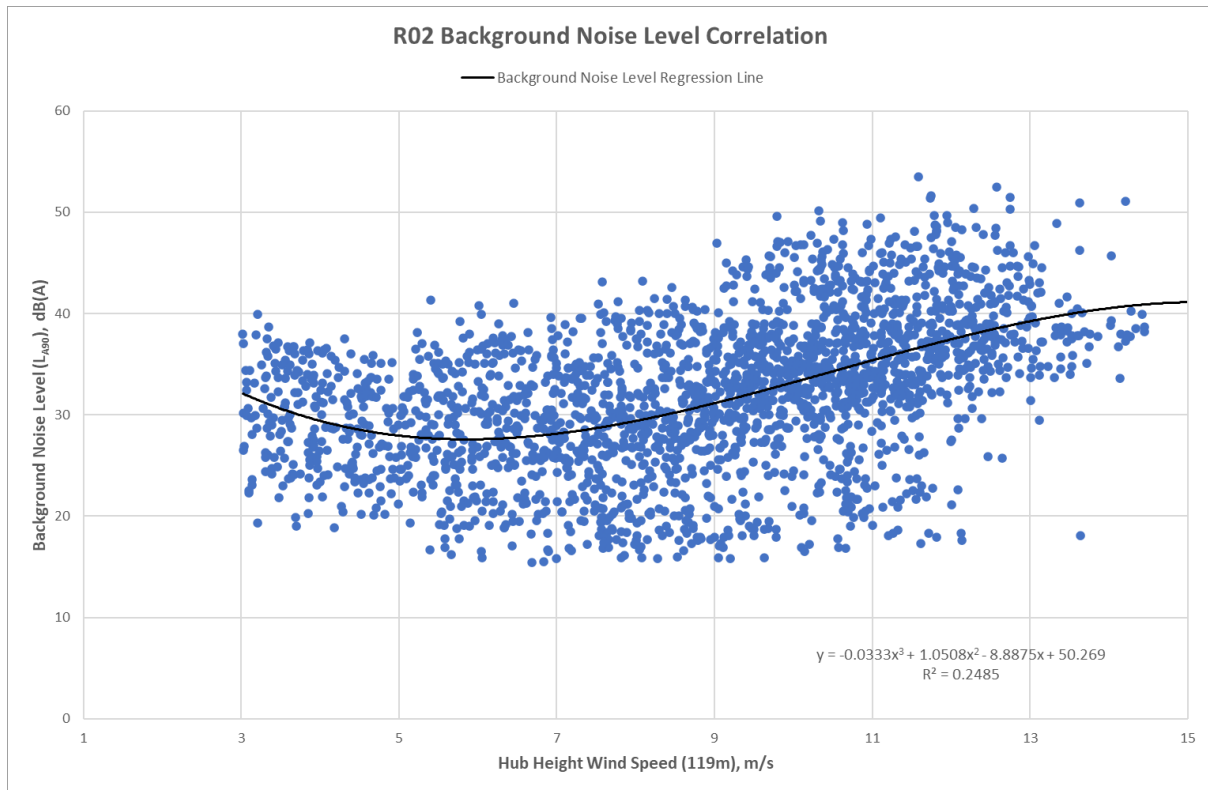
Figure 8: R113 monitoring location.

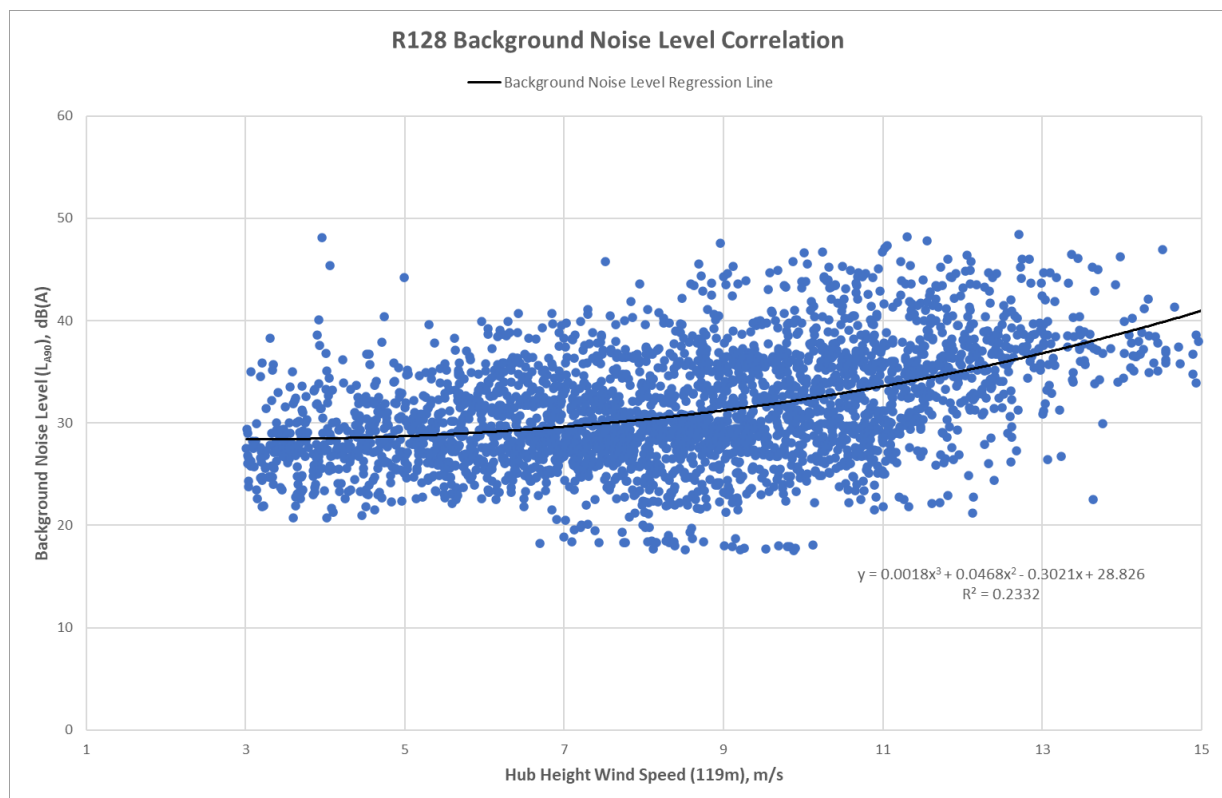
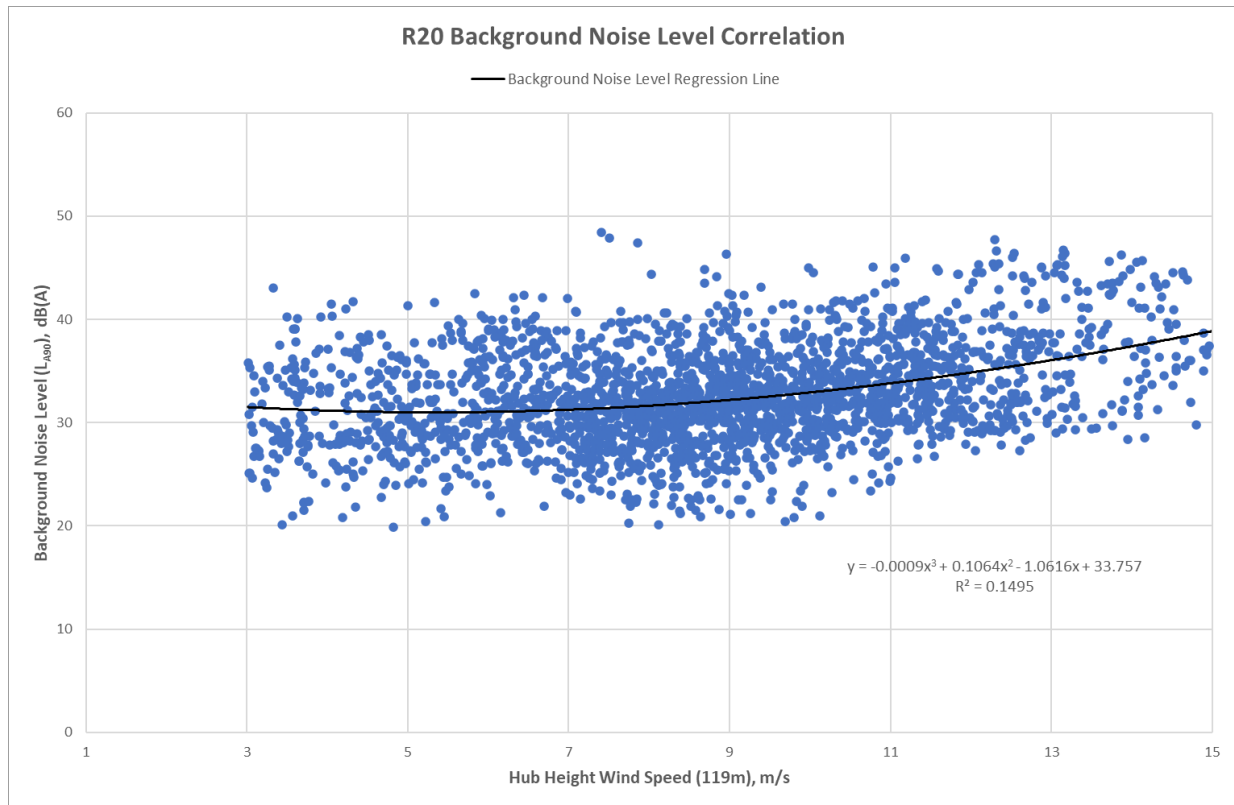


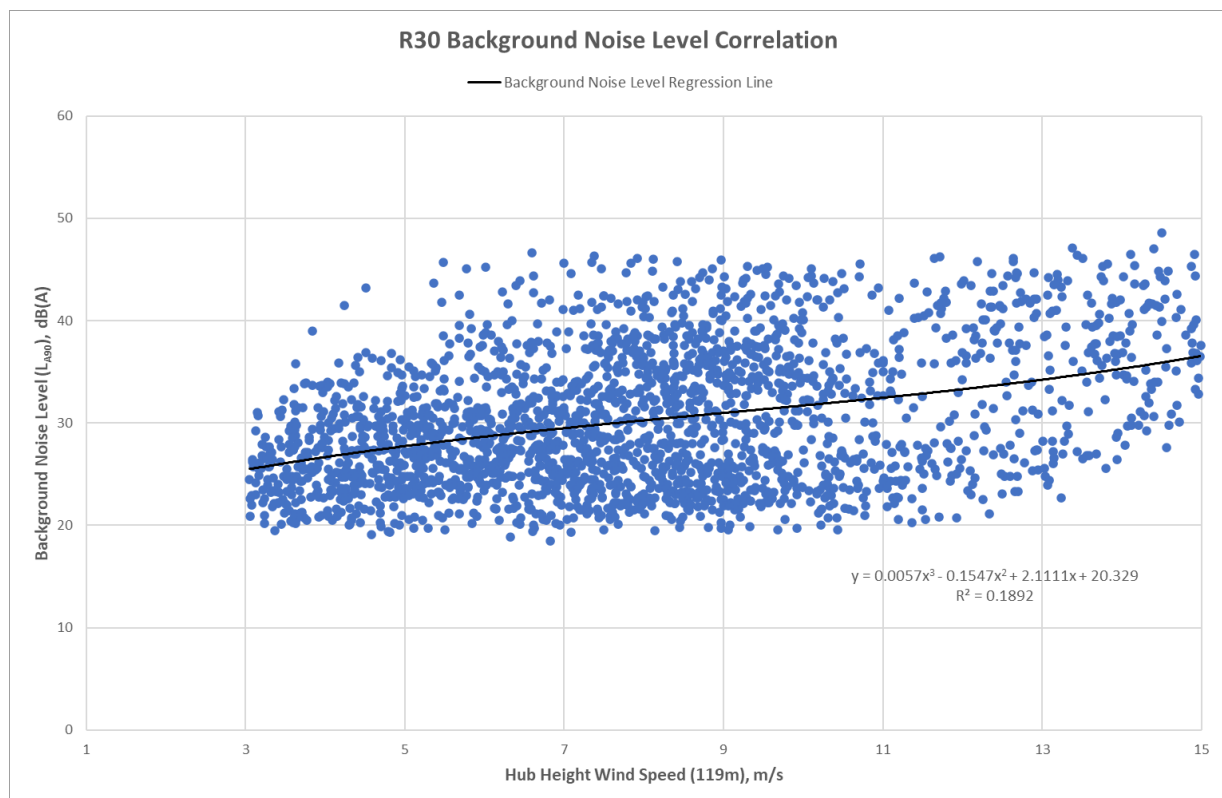
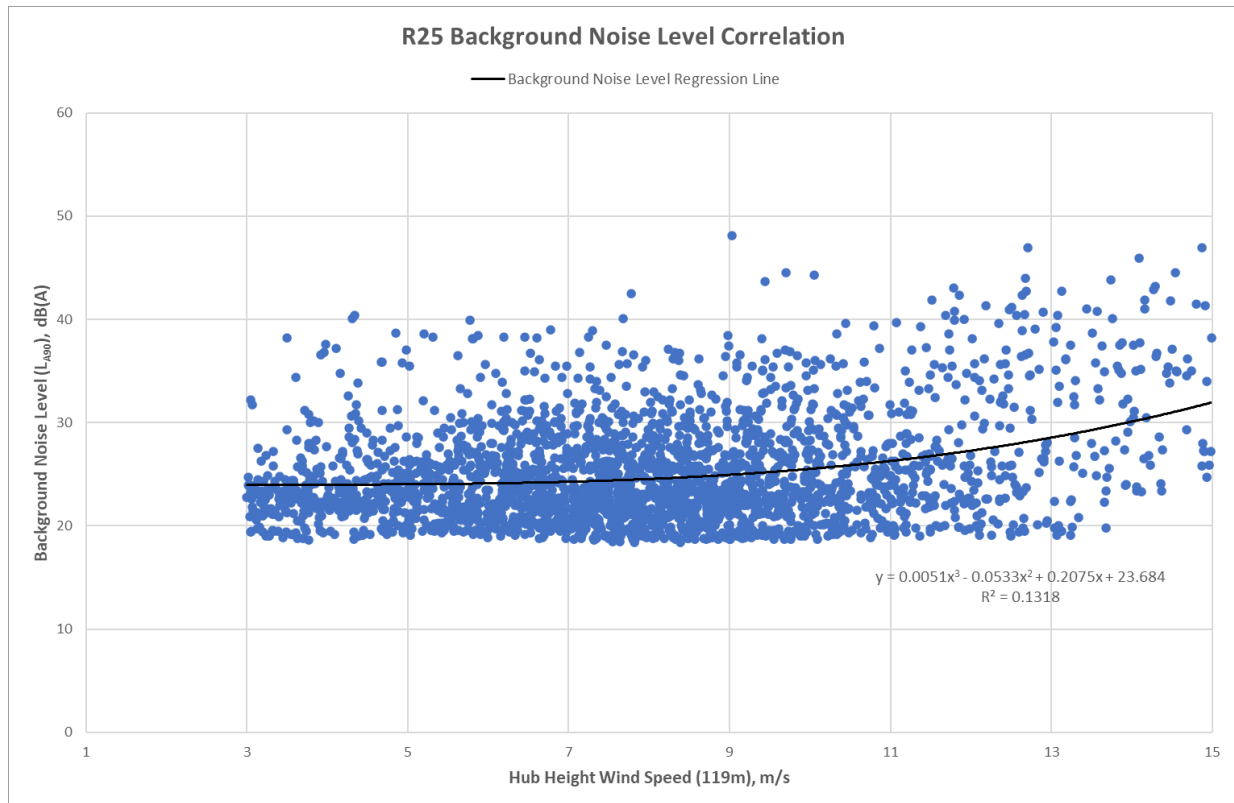
Figure 9: R330 monitoring location.

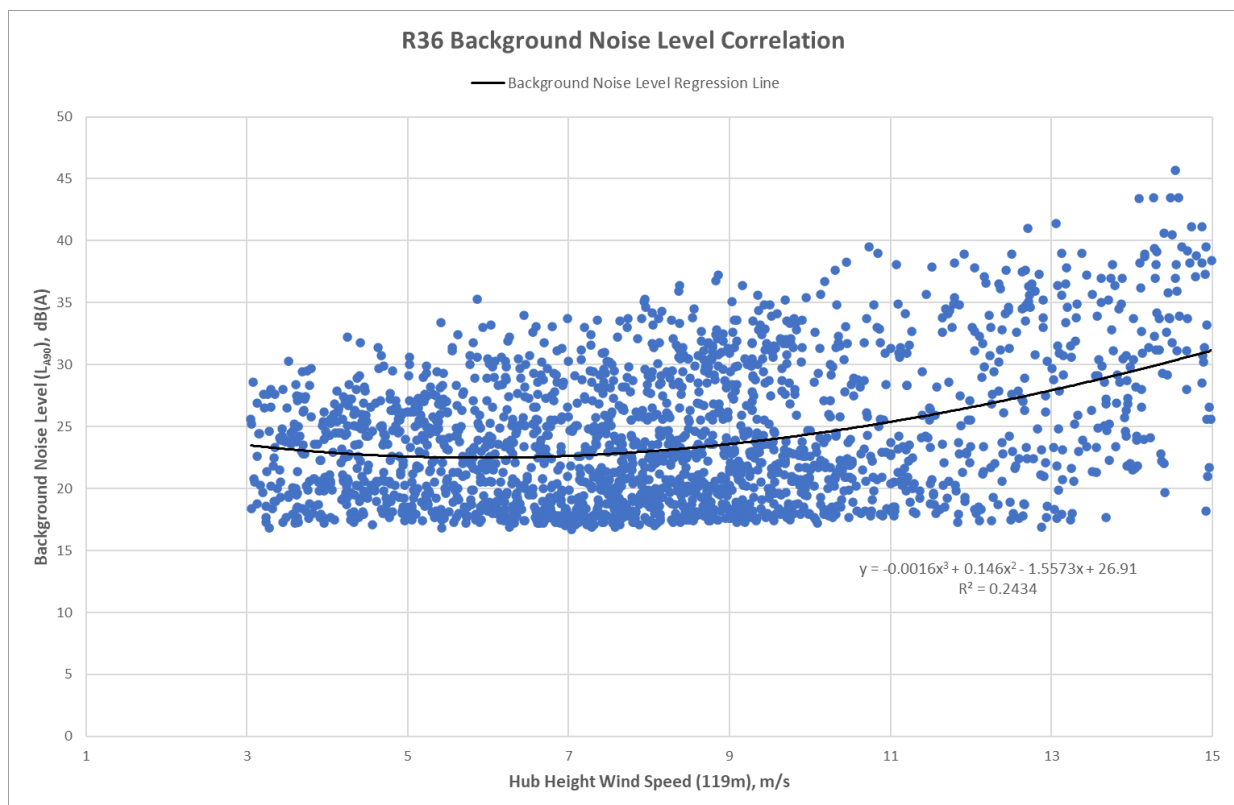
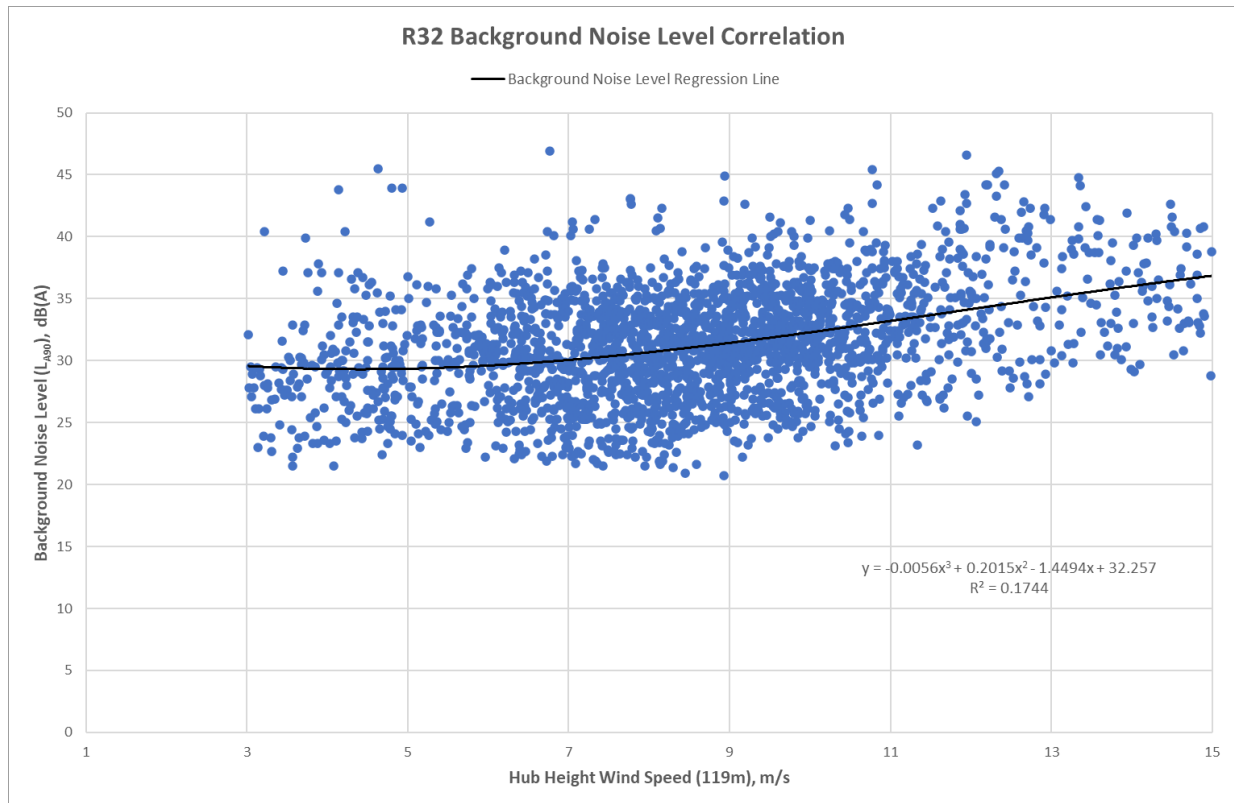


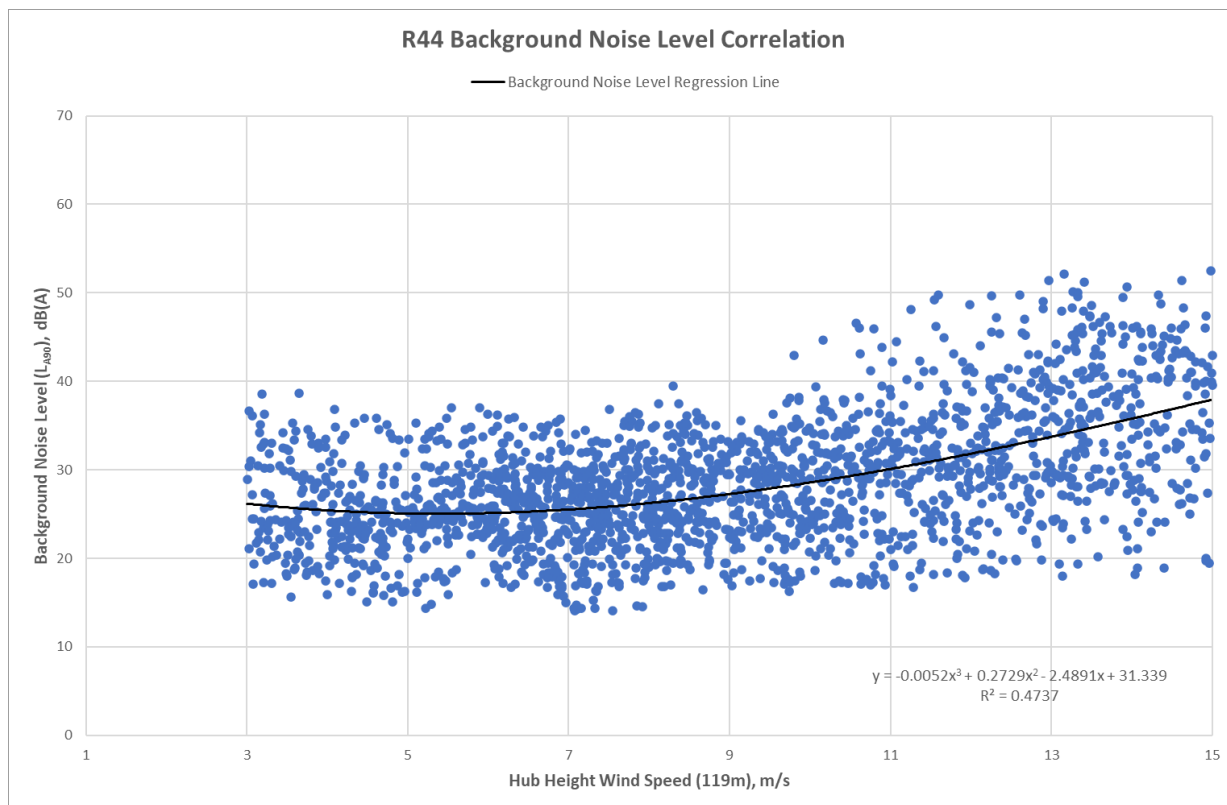
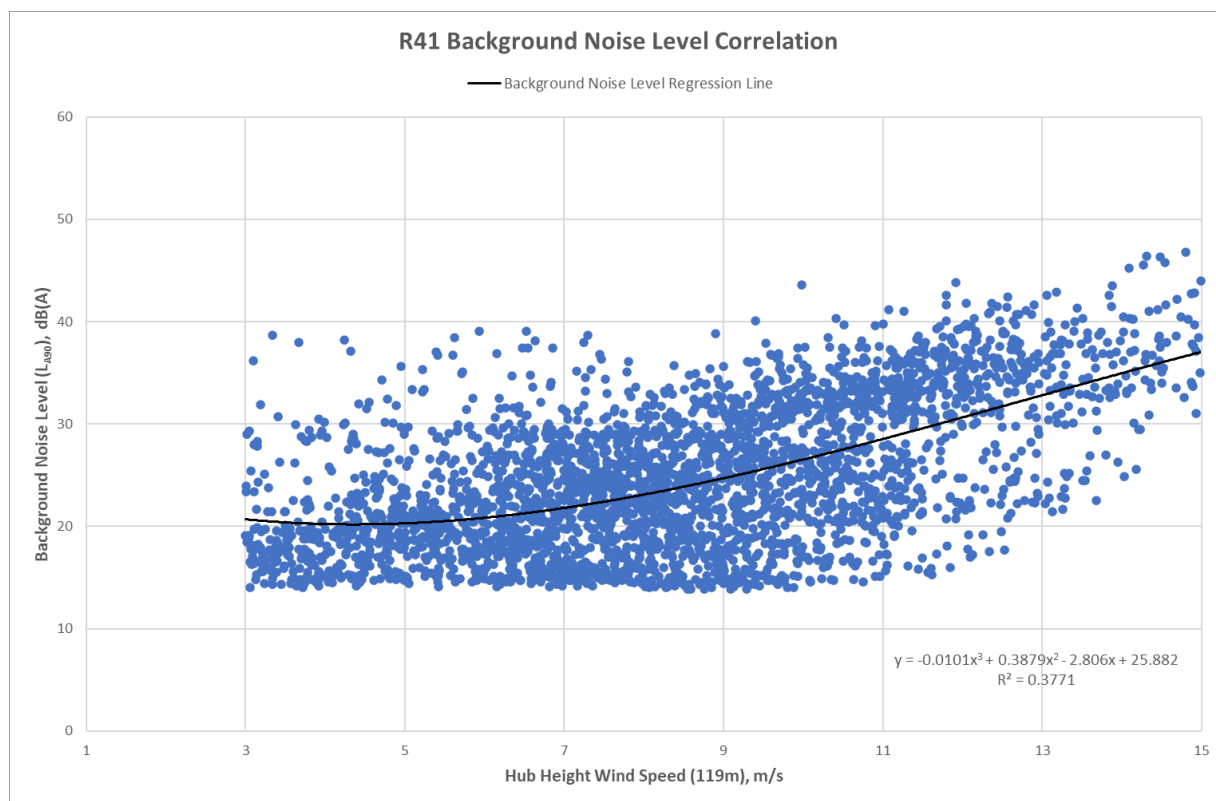
Appendix B: Background noise and wind speed correlation for original monitoring locations

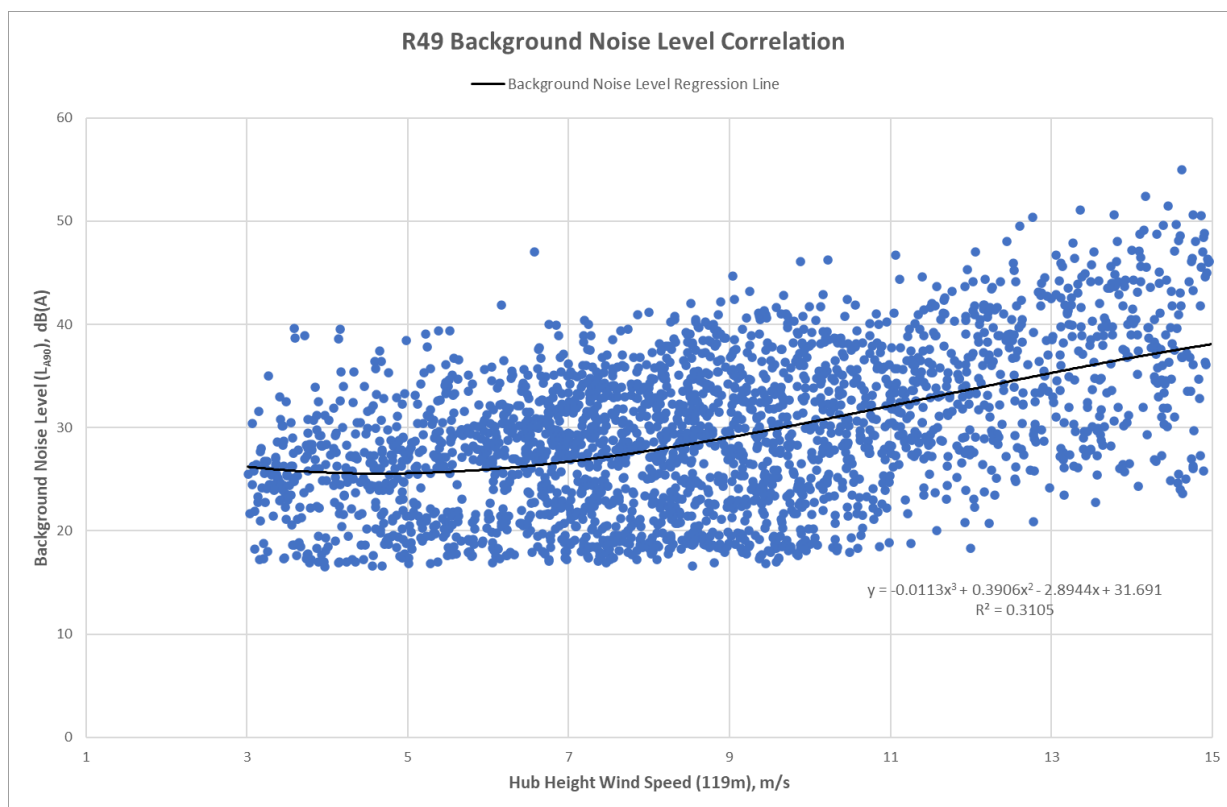
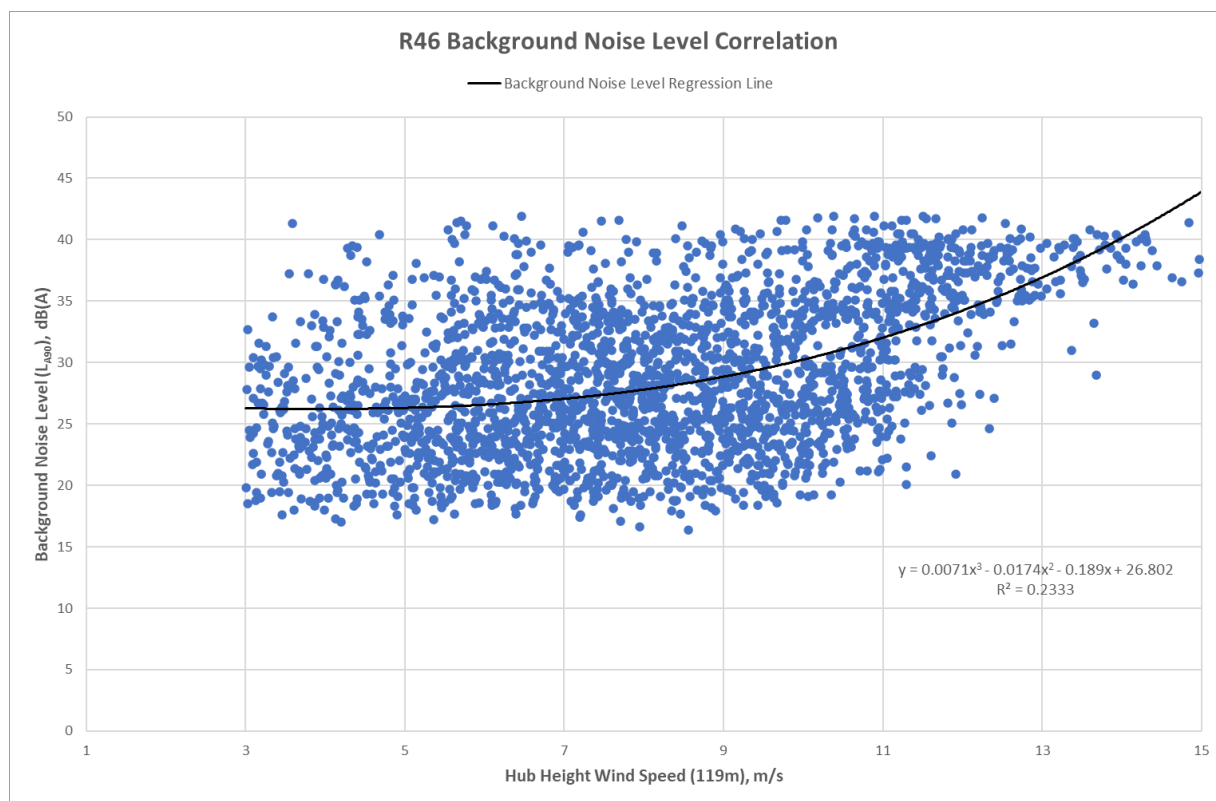


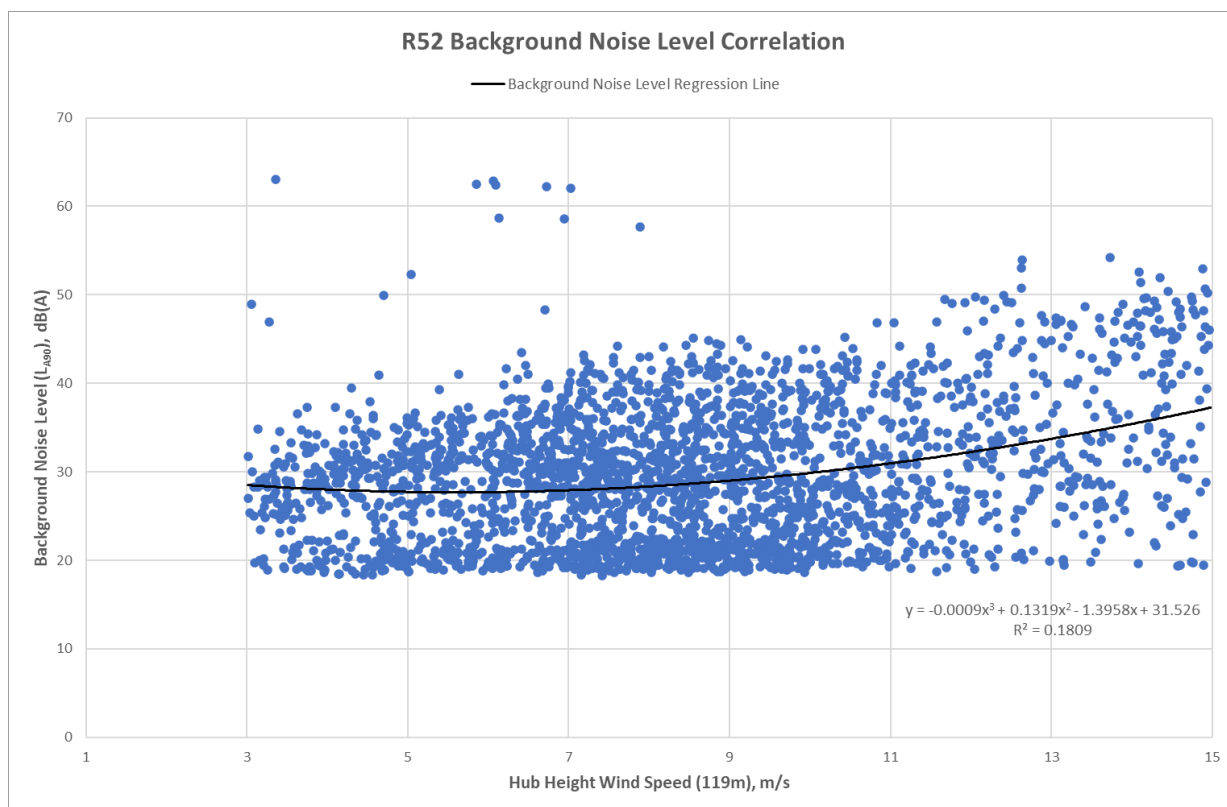
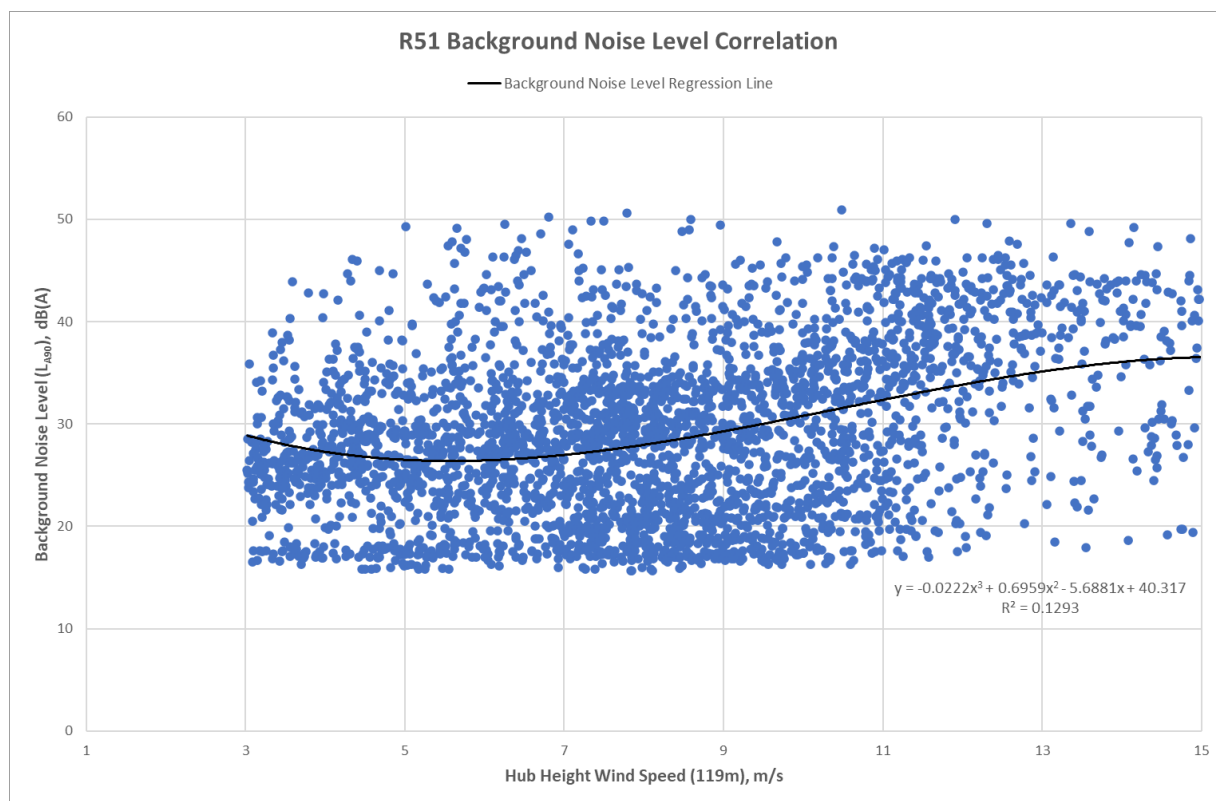


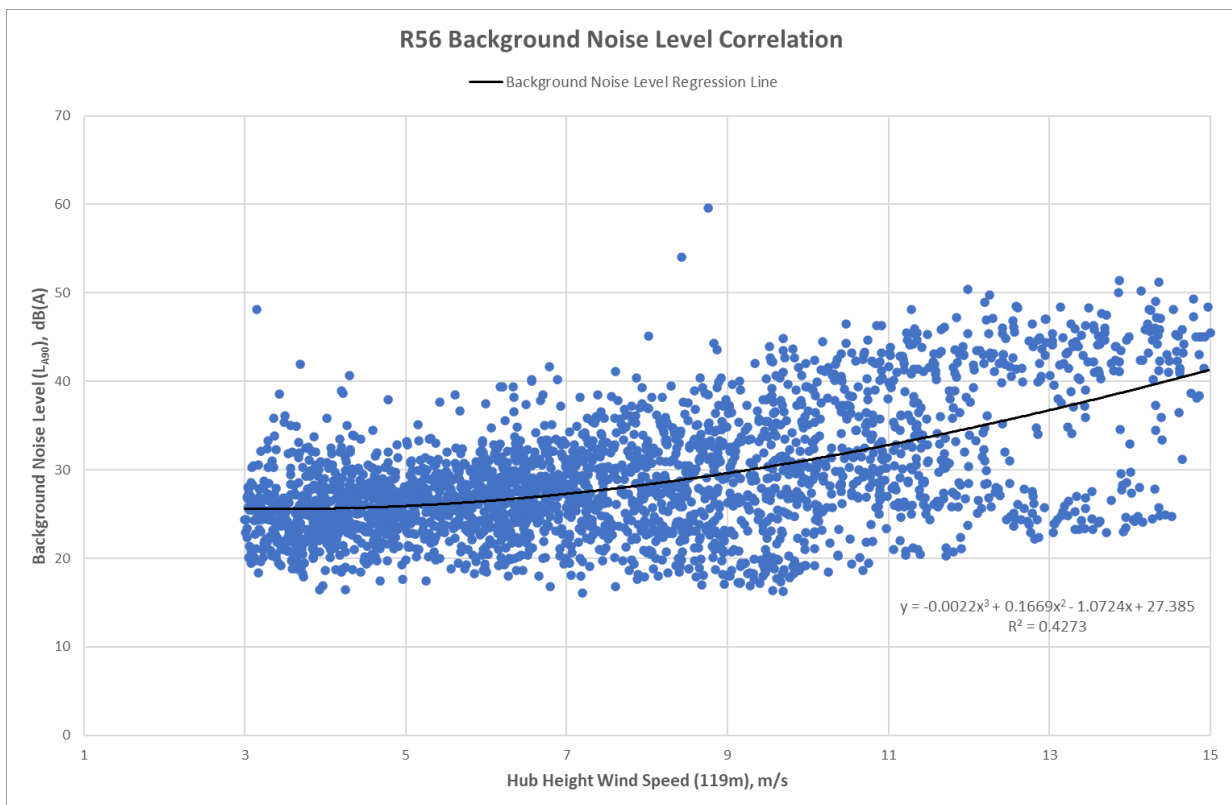
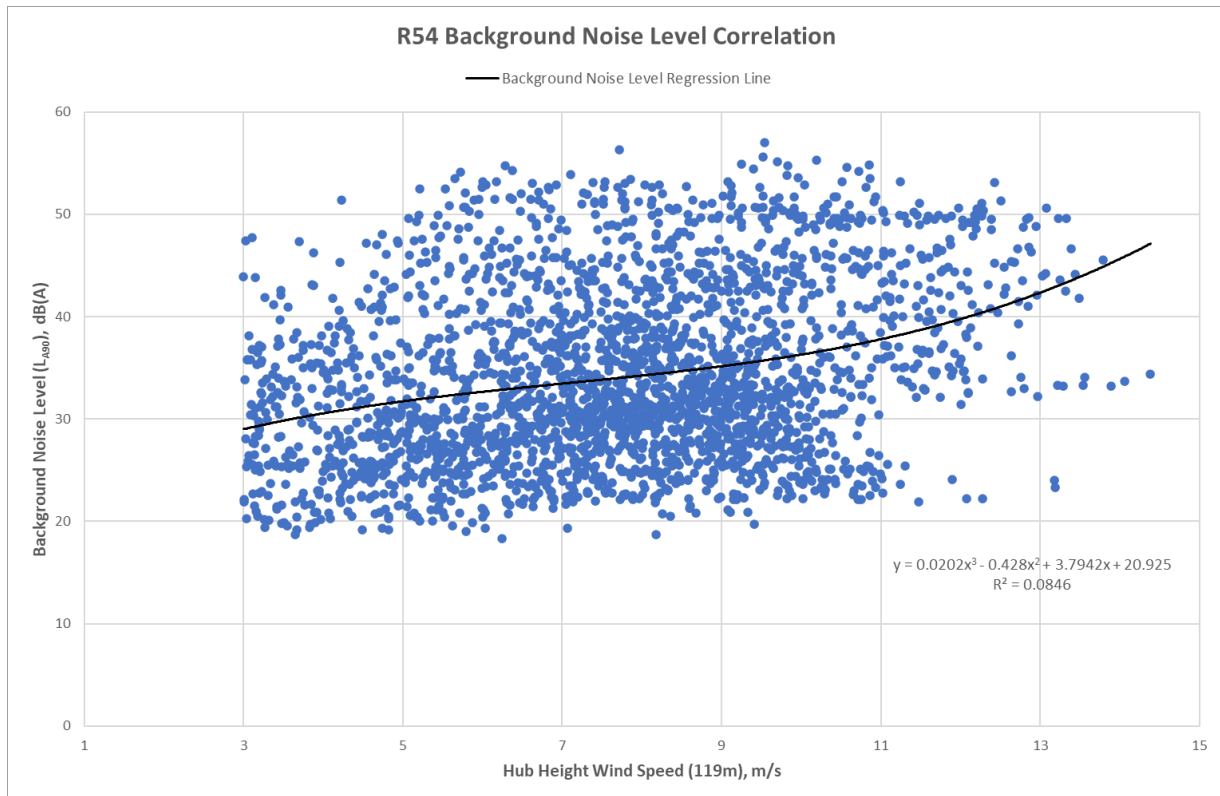


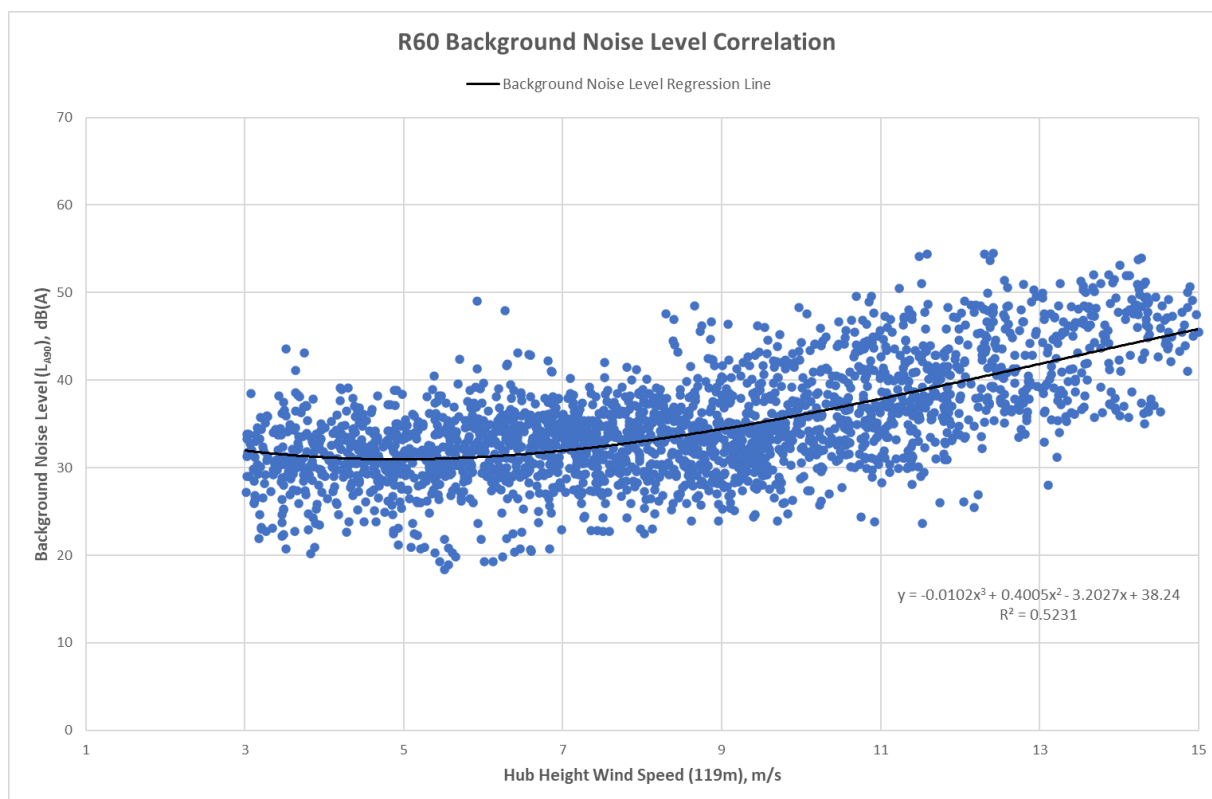




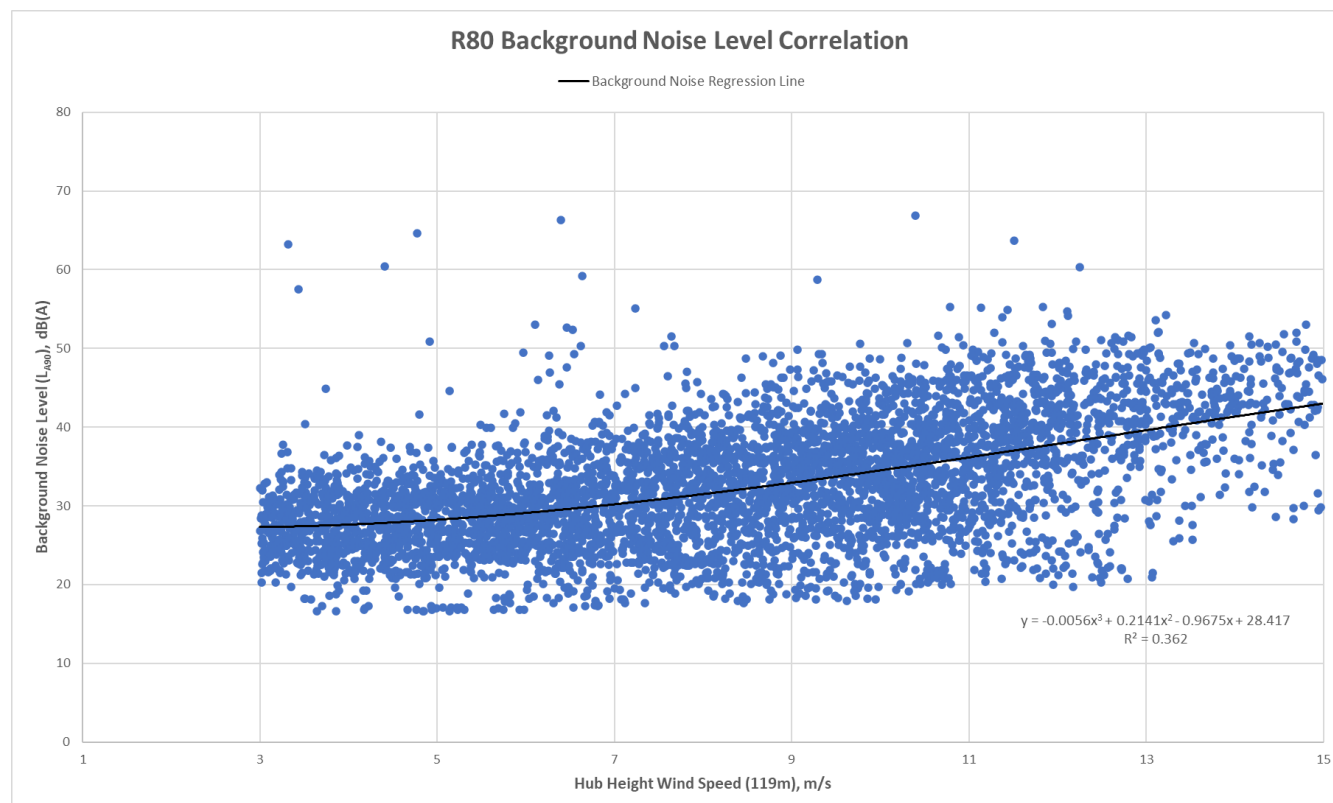
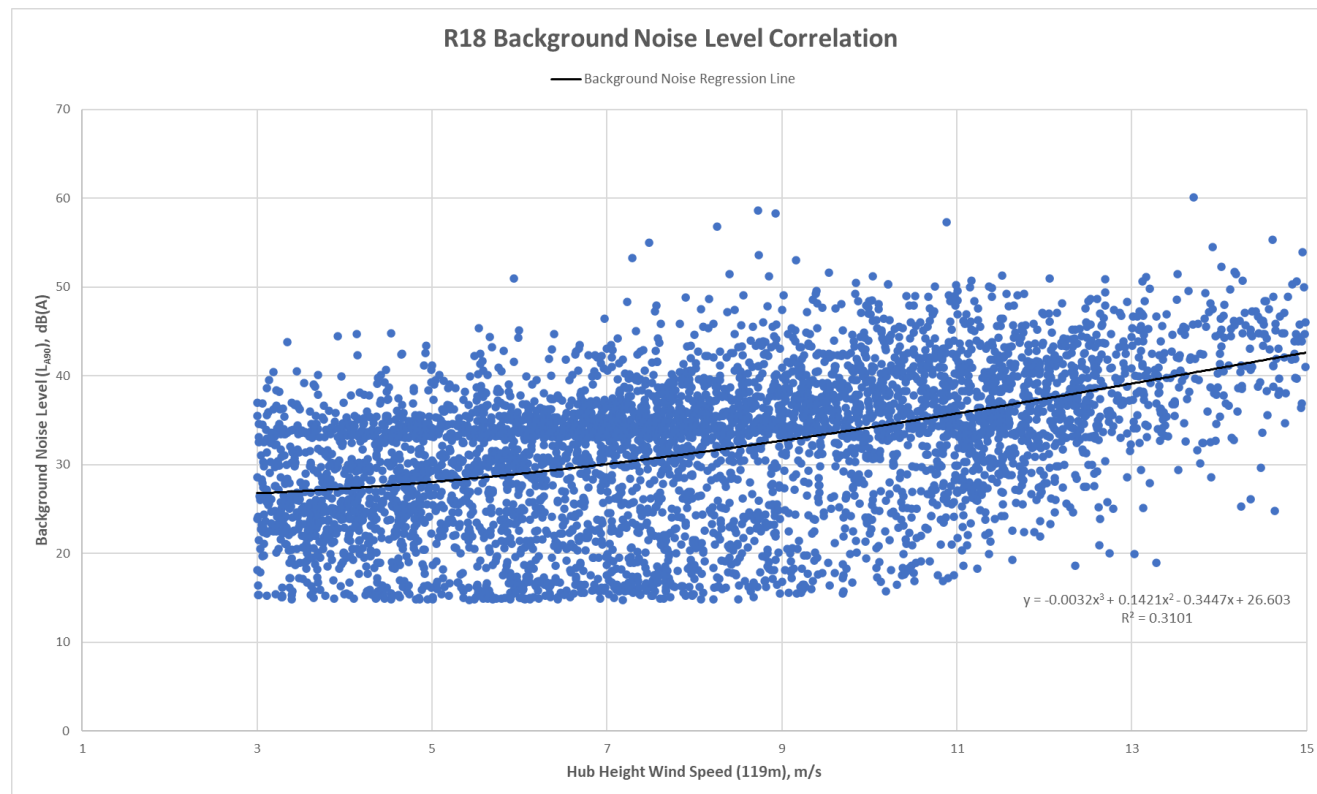


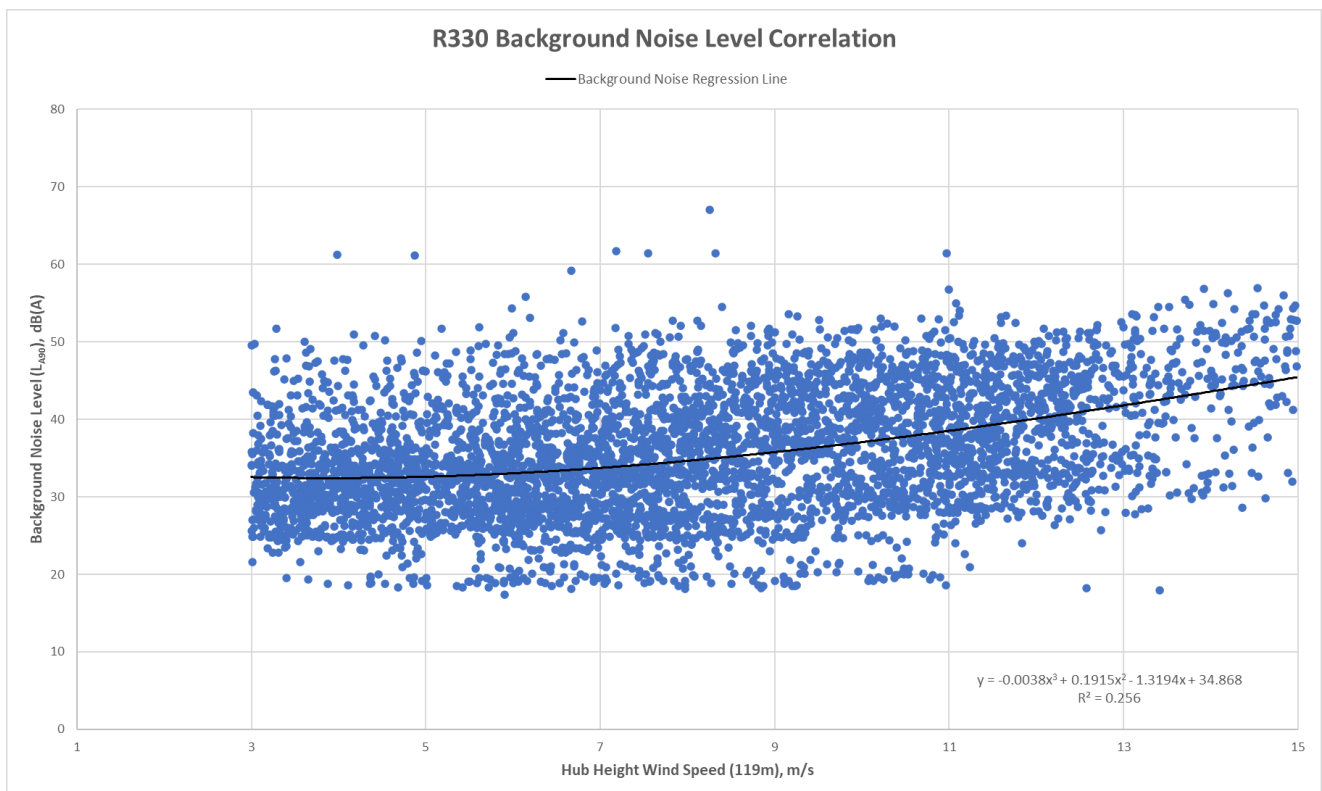
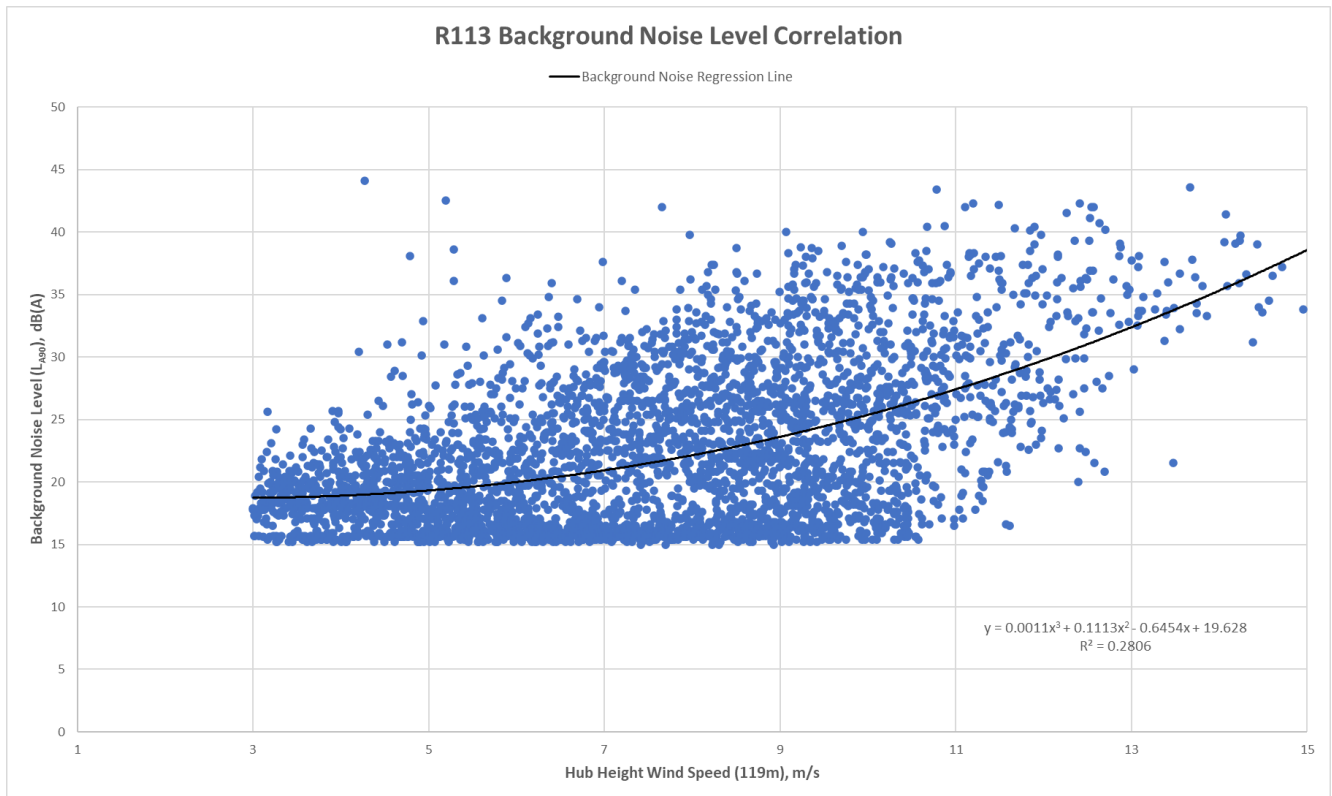






Appendix C: Background noise and wind speed correlation for additional monitoring locations





Appendix D: Residence Coordinates

ID	Coordinates	
	(UTM WGS84 H55)	
	Easting	Northing
Associated Residences		
R01	677,418	6,187,127
R02	678,095	6,185,733
R14	677,807	6,183,115
R16	677,297	6,181,991
R20	676,130	6,181,544
R25	677,075	6,178,323
R31	679,304	6,177,019
R34	681,817	6,174,338
R36	679,988	6,173,811
R40	678,605	6,171,136
R41	681,870	6,168,503
R42	683,370	6,168,206
R44	679,986	6,166,322
R46	681,835	6,164,679
R49	680,667	6,162,540
R51	680,970	6,161,588
R52	684,135	6,161,246
R54	683,514	6,155,819
R56	686,567	6,153,140
R59	684,670	6,149,654
R60	684,244	6,149,529
R61	684,489	6,149,335
R64	676,239	6,180,502
R66	683,628	6,159,544
R72	677,635	6,173,854
R73	677,725	6,173,856
R80	679,215	6,168,709
R113	684,054	6,179,129
R114	683,962	6,183,346
R128	678,848	6,183,498
R192	675,172	6,179,170

ID	Coordinates	
	(UTM WGS84 H55)	
	Easting	Northing
Non-Associated Residences		
R04	680,436	6,185,190
R06	681,484	6,184,020
R07	681,917	6,183,967
R08	682,339	6,183,864
R09	682,517	6,183,838
R10	682,842	6,183,767
R11	679,650	6,183,618
R15	675,095	6,182,805
R17	676,127	6,181,740
R18	676,024	6,181,739
R19	676,412	6,181,665
R22	676,095	6,181,037
R24	683,597	6,178,847
R26	676,523	6,178,178
R28	684,090	6,177,918
R29	676,434	6,177,903
R38	679,623	6,173,620
R45	682,847	6,165,279
R47	680,155	6,162,689
R48	679,834	6,162,662
R50	680,701	6,161,784
R53	680,877	6,160,875
R63	683,875	6,148,991
R65	676,668	6,179,644
R67	683,606	6,159,059
R68	684,235	6,160,336
R69	676,002	6,175,948
R70	675,919	6,175,950
R71	675,814	6,175,406
R74	677,256	6,172,562
R75	677,851	6,172,291
R76	676,803	6,171,944
R77	677,654	6,169,542
R78	676,707	6,169,056
R79	676,671	6,168,992
R81	678,216	6,166,375
R82	677,982	6,165,692
R83	678,818	6,162,988
R85	680,217	6,161,078
R86	680,739	6,159,422
R87	682,469	6,156,694
R88	682,860	6,156,066
R89	681,098	6,154,853
R90	680,583	6,151,407

ID	Coordinates	
	(UTM WGS84 H55)	
	Easting	Northing
Non-Associated Residences		
R91	680,875	6,148,463
R92	681,812	6,147,909
R93	680,723	6,147,619
R94	680,028	6,147,815
R95	680,529	6,147,037
R96	680,529	6,146,998
R97	681,049	6,146,176
R98	684,400	6,148,461
R99	689,280	6,153,857
R100	684,738	6,148,432
R101	688,189	6,154,931
R102	685,395	6,158,972
R103	688,158	6,159,213
R104	688,448	6,159,572
R105	688,749	6,159,082
R106	688,206	6,160,370
R107	686,879	6,160,480
R108	685,842	6,160,591
R109	684,831	6,165,424
R110	684,391	6,165,083
R111	684,234	6,167,383
R112	686,151	6,177,467
R115	684,767	6,183,708
R116	681,337	6,185,781
R117	681,030	6,186,528
R118	681,128	6,186,796
R119	679,979	6,187,579
R120	679,167	6,188,823
R121	673,113	6,188,366
R122	671,741	6,187,148
R124	673,168	6,185,478
R125	673,241	6,185,272
R126	673,137	6,186,723
R127	672,865	6,184,811
R129	687,424	6,148,652
R130	673,183	6,185,598
R131	674,633	6,183,862
R132	675,005	6,182,884
R133	680,562	6,147,046
R135	679,999	6,147,821
R137	686,573	6,148,420
R138	686,660	6,148,328
R139	687,199	6,148,339
R140	687,418	6,148,615

ID	Coordinates	
	(UTM WGS84 H55)	
	Easting	Northing
Non-Associated Residences		
R141	687,456	6,149,042
R142	688,783	6,148,859
R143	688,712	6,149,106
R144	688,869	6,149,542
R145	678,834	6,149,712
R146	688,806	6,149,898
R147	678,909	6,150,247
R148	678,110	6,150,900
R149	678,227	6,152,209
R151	689,009	6,153,254
R152	678,918	6,153,120
R153	689,004	6,153,469
R154	679,214	6,154,085
R155	682,087	6,155,970
R156	682,424	6,156,503
R157	682,567	6,157,576
R158	679,832	6,158,239
R159	680,150	6,158,414
R160	686,516	6,163,209
R161	686,558	6,163,349
R162	686,194	6,163,423
R163	686,122	6,163,365
R164	686,179	6,163,303
R165	686,730	6,164,124
R166	686,578	6,164,097
R167	686,605	6,163,812
R168	686,585	6,163,793
R169	686,768	6,164,315
R170	683,284	6,165,017
R175	689,083	6,176,435
R177	675,210	6,178,587
R179	675,135	6,178,717
R180	675,088	6,178,761
R181	674,875	6,178,540
R182	675,037	6,178,486
R183	674,578	6,178,693
R184	673,469	6,178,896
R185	674,831	6,178,963
R186	675,142	6,178,988
R187	675,113	6,178,835
R188	675,224	6,179,170
R189	674,755	6,179,114
R190	674,929	6,179,085
R191	674,993	6,179,119
R193	675,059	6,178,927
R194	675,004	6,178,932

ID	Coordinates	
	(UTM WGS84 H55)	
	Easting	Northing
Non-Associated Residences		
R195	674,752	6,178,927
R196	674,852	6,178,901
R197	675,003	6,178,871
R198	675,154	6,178,827
R199	675,207	6,178,841
R200	675,115	6,178,809
R202	684,519	6,179,497
R203	676,049	6,179,500
R204	675,863	6,179,390
R206	685,306	6,180,642
R207	672,288	6,187,479
R209	672,542	6,188,800
R210	672,541	6,189,270
R211	687,811	6,148,549
R212	689,159	6,149,506
R213	679,947	6,154,232
R214	679,299	6,153,729
R216	690,718	6,155,201
R217	679,547	6,155,316
R218	687,614	6,160,188
R219	686,206	6,164,280
R220	686,269	6,165,266
R223	674,862	6,178,409
R226	675,069	6,178,599
R230	675,291	6,179,035
R232	674,827	6,178,687
R234	674,816	6,178,852
R243	681,627	6,156,031
R244	679,843	6,157,268
R246	678,838	6,153,796
R259	679,376	6,155,053
R262	680,441	6,154,534
R266	676,126	6,178,067
R267	675,619	6,180,141
R268	675,798	6,179,747
R269	675,542	6,178,459
R270	675,545	6,178,651
R271	675,812	6,176,676
R272	675,077	6,178,674
R274	675,072	6,178,723
R276	674,959	6,179,291
R277	674,797	6,177,072
R278	674,900	6,178,637
R279	674,830	6,177,839
R280	674,827	6,178,559
R281	674,896	6,178,572

ID	Coordinates	
	(UTM WGS84 H55)	
	Easting	Northing
Non-Associated Residences		
R282	672,813	6,183,624
R283	674,251	6,179,077
R284	674,150	6,179,201
R286	683,162	6,184,437
R288	675,035	6,179,594
R289	672,895	6,185,072
R290	685,210	6,146,484
R291	686,571	6,146,903
R292	674,883	6,178,516
R294	681,540	6,148,503
R295	689,276	6,153,049
R296	689,334	6,159,068
R298	677,624	6,169,761
R303	675,012	6,174,765
R304	673,912	6,168,651
R305	673,040	6,169,296
R307	674,148	6,169,506
R308	685,152	6,146,518
R309	681,194	6,187,371
R310	674,929	6,179,121
R311	668,973	6,166,709
R313	690,893	6,155,645
R314	688,121	6,159,393
R315	686,718	6,158,805
R316	686,237	6,162,634
R317	686,240	6,165,612
R318	686,391	6,166,303
R319	686,200	6,179,899
R323	679,280	6,152,986
R324	680,449	6,161,468
R325	675,154	6,178,653
R326	680,497	6,158,049
R327	670,573	6,166,151
R328	674,877	6,183,534
R329	673,626	6,185,507
R330	675,185	6,183,010