

20200813.4/0210A/R2/GW

2/03/2022

Gazbuild Pty Ltd
10/60 Park Street
SYDNEY NSW 2000

Attn: Tim Sachs

813-913 Wallgrove Road, Horsley Park - Background Noise Verification and Noise Emission Criteria

This letter provides the results of additional long term unattended monitoring at the nearest residential receivers and proposed noise emission criteria for project at 813-913 Wallgrove Road, Horsley Park.

Unattended Noise Monitoring

Unattended noise monitoring was conducted using Rion NL-42 (Type 2) sound level meters.

The monitoring was continuous, with statistical noise levels recorded at 15-minute intervals throughout the monitoring period. Measurements were taken on "A" frequency weighting and fast time response.

All monitoring equipment used retains current calibration - either manufacturers' calibration or NATA certified calibration. The monitors were field calibrated at the beginning and the end of the measurement with no significant drift in calibration noted.

The monitoring locations are shown in Figure 1.

Ambient, assessment and rating background levels have been determined from the long term, unattended noise monitoring data based on the methodology in the Noise Policy for Industry Fact Sheet B. Appendix 1 contains graphs of the data collected, including periods identified as being affected by adverse weather conditions (as defined by INP Fact Sheet B).

Weather data was obtained from records provided by the Bureau of Meteorology for the weather station located at Horsley Park Equestrian Centre.

The NPfl day, evening and night periods are:

- Day - period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays
- Evening - the period from 6 pm to 10 pm
- Night - the remaining periods

The following tables summarise the assessment background noise levels (ABL) for each location. Where no ABL is indicated, that period was affected by adverse weather or other extraneous noise and excluded from the ABL calculation.

Table 1 – NPfl Assessment Background Noise Levels Location 1

Location	Date	ABL		
		Day	Evening	Night
L1	Thursday 13 January 2022	-	43	43
	Friday 14 January 2022	41	41	42
	Saturday 15 January 2022	40	41	42
	Sunday 16 January 2022	40	42	42
	Monday 17 January 2022	42	41	41
	Tuesday 18 January 2022	-	-	-
	Wednesday 19 January 2022	-	43	42
	Thursday 20 January 2022	-	43	42
	Friday 21 January 2022	42	42	41
	Saturday 22 January 2022	41	41	-
	Sunday 23 January 2022	39	44	-
	Monday 24 January 2022	39	43	41
	Tuesday 25 January 2022	41	41	41
	Wednesday 26 January 2022	-	-	-
	RBL	40	42	41

Table 2 – NPfl Assessment Background Noise Levels Location 2

Location	Date	ABL		
		Day	Evening	Night
L2	Thursday 13 January 2022	-	44	36
	Friday 14 January 2022	42	42	38
	Saturday 15 January 2022	40	42	40
	Sunday 16 January 2022	39	43	42
	Monday 17 January 2022	41	41	43
	Tuesday 18 January 2022	-	-	-
	Wednesday 19 January 2022	-	44	41
	Thursday 20 January 2022	-	42	38
	Friday 21 January 2022	45	40	37
	Saturday 22 January 2022	44	42	-
	Sunday 23 January 2022	41	42	-
	Monday 24 January 2022	40	44	37
	Tuesday 25 January 2022	42	42	36
	Wednesday 26 January 2022	39	42	36
	Thursday 27 January 2022	42	42	37
	Friday 28 January 2022	43	42	42
	Saturday 29 January 2022	40	40	38
	Sunday 30 January 2022	40	41	40
	Monday 31 January 2022	40	40	42
	Tuesday 01 February 2022	40	43	-
	Wednesday 02 February 2022	-	41	36
	Thursday 03 February 2022	44	-	38
	Friday 04 February 2022	-	-	37
	Saturday 05 February 2022	-	42	35
Sunday 06 February 2022	-	-	36	
	RBL	40	42	37

Table 3 – NPfl Assessment Background Noise Levels Location 3

Location	Date	ABL		
		Day	Evening	Night
L3	Thursday 13 January 2022	-	50	43
	Friday 14 January 2022	48	51	43
	Saturday 15 January 2022	44	48	42
	Sunday 16 January 2022	42	48	42
	Monday 17 January 2022	46	48	44
	Tuesday 18 January 2022	-	-	-
	Wednesday 19 January 2022	-	47	44
	Thursday 20 January 2022	-	48	43
	Friday 21 January 2022	51	48	41
	Saturday 22 January 2022	48	48	-
	Sunday 23 January 2022	44	48	-
	Monday 24 January 2022	47	51	45
	Tuesday 25 January 2022	52	51	42
	Wednesday 26 January 2022	43	50	45
	Thursday 27 January 2022	52	51	45
	Friday 28 January 2022	50	51	44
	Saturday 29 January 2022	47	47	41
	Sunday 30 January 2022	46	48	42
	Monday 31 January 2022	46	50	45
	Tuesday 01 February 2022	43	49	-
	Wednesday 02 February 2022	-	47	41
Thursday 03 February 2022	48	-	42	
Friday 04 February 2022	-	-	-	
	RBL	46	48	42

The following table summarises the rating background noise levels determined for the day, evening and night periods as defined in the NPfl.

Table 4 – NPfl Rating Background Noise Levels

Location	Rating Background Noise Level (dB(A) L ₉₀)		
	Day	Evening	Night
1	40	42	41
2	40	42	37
3	46	48	42

DPIE Recommended Background Noise Data

DPIE suggest using background monitoring undertaken by SLR in August 2019 at 106 Burley Road in Horsley Park (SSD-10330) with rated background noise levels (RBLs) of **38, 36 and 36 dB(A)** for day, evening and night periods respectively

Recommended Noise Emission Criteria

This office has been advised to adopt the background noise levels recommended by DPIE for setting up noise emission criteria based on requirements of NSW EPA Noise Policy for Industry 2017. The summarised noise emission criteria are detailed below.

Table 5 – NPfI Noise Emission Criteria

Location	Time of Day	Noise Objectives*
Residential Boundaries around the Project site	Day (7am-6pm)	43 dB(A) _{Leq, 15min}
	Evening (6pm-10pm)	41 dB(A) _{Leq, 15min}
	Night (10pm-7am)	38 dB(A) _{Leq, 15min} 52 dB(A) _{L1,1min}
Industrial Boundaries	When in use	68 dB(A) _{Leq}

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



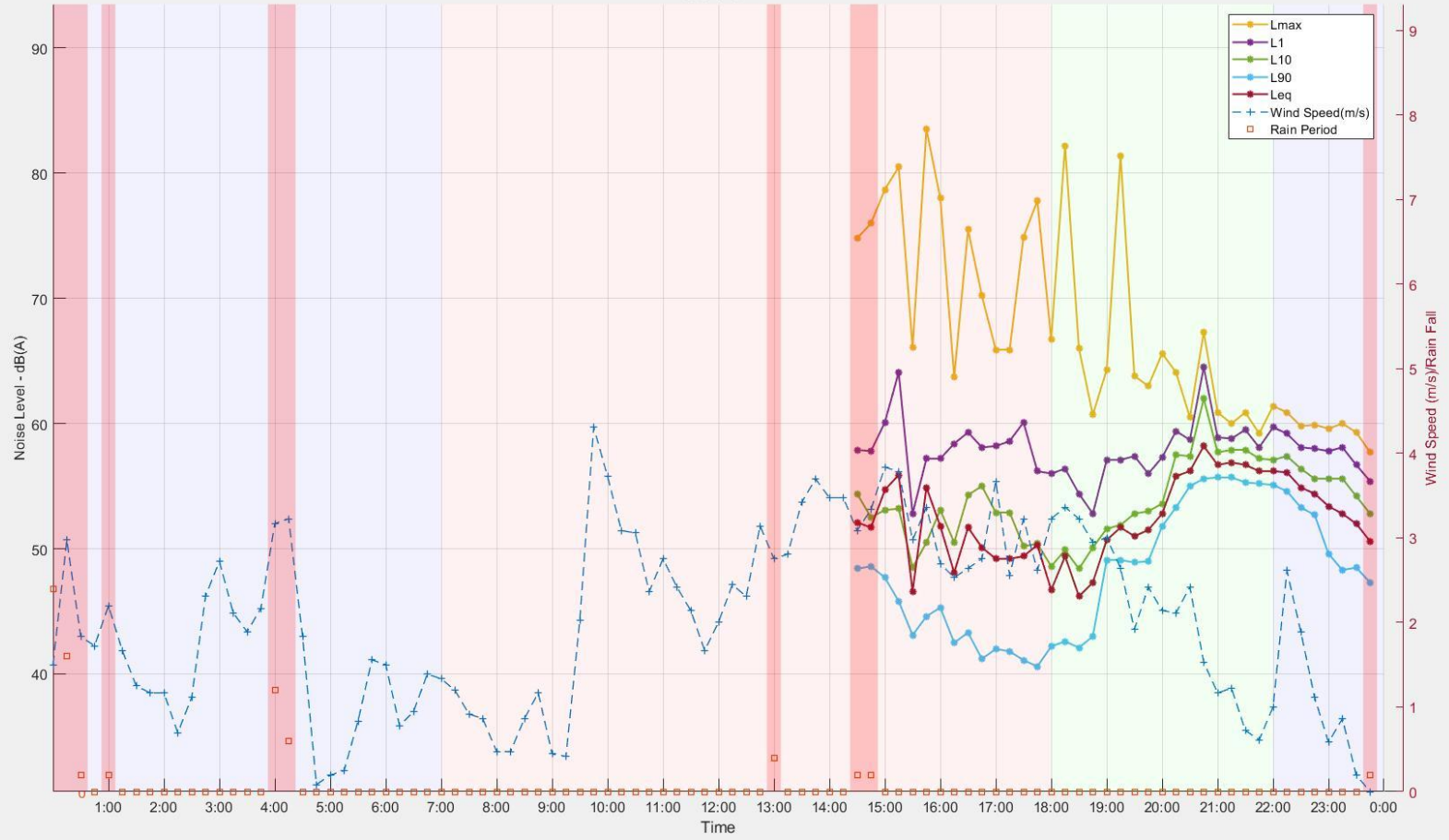
Acoustic Logic Consultancy Pty Ltd
George Wei



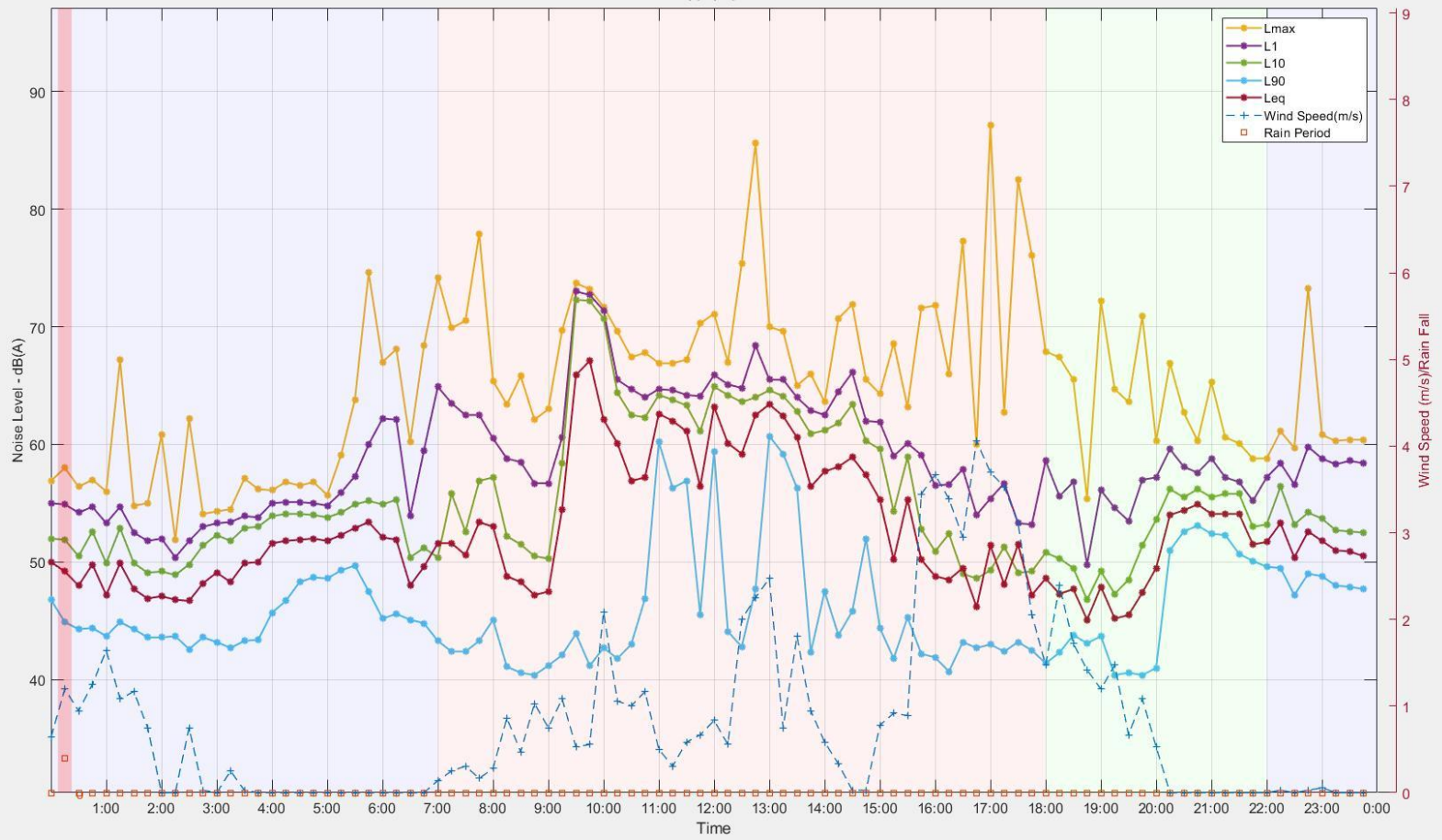
Figure 1 - Logging Locations

APPENDIX A – AMBIENT NOISE DATA

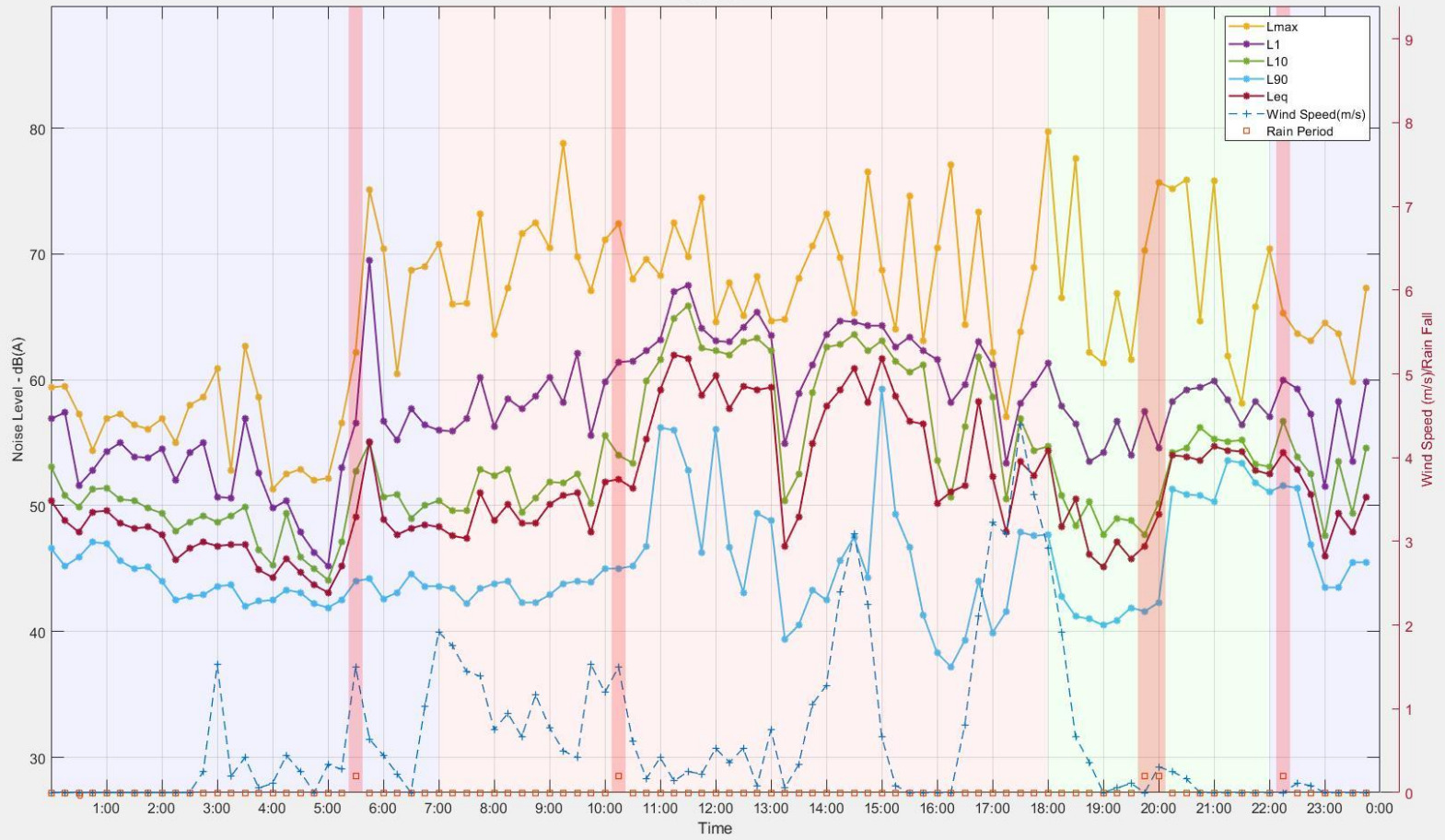
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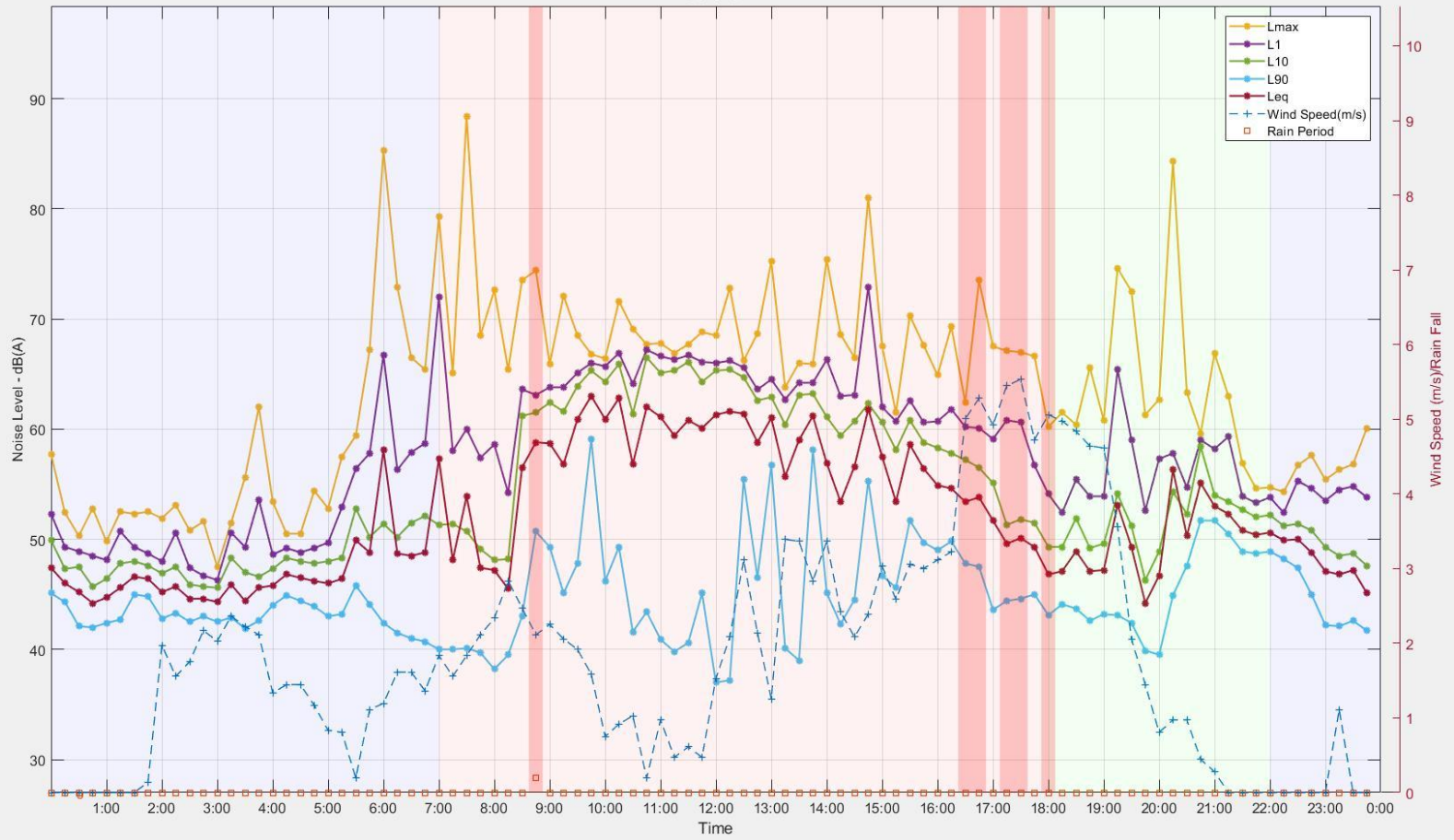
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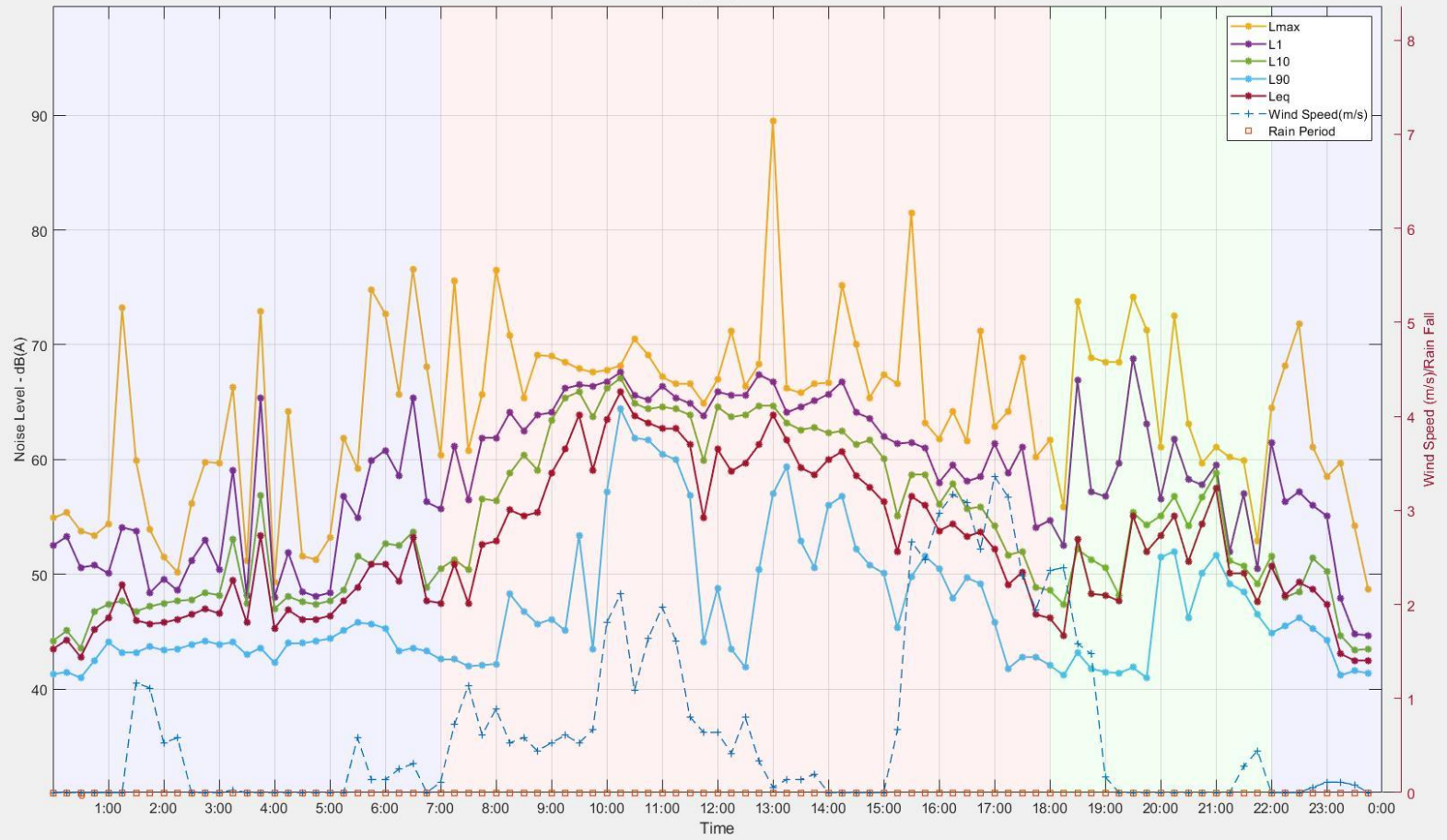
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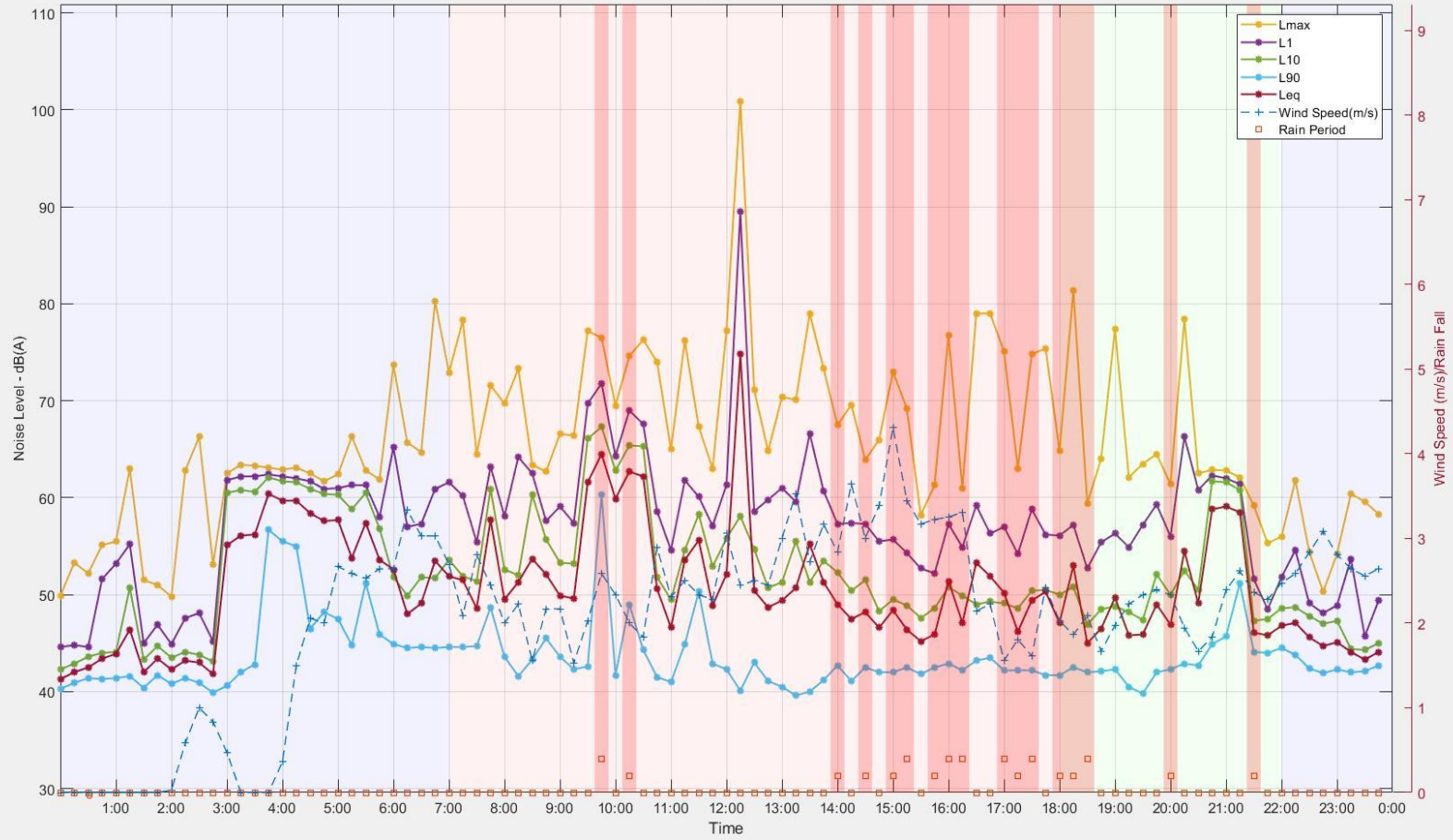
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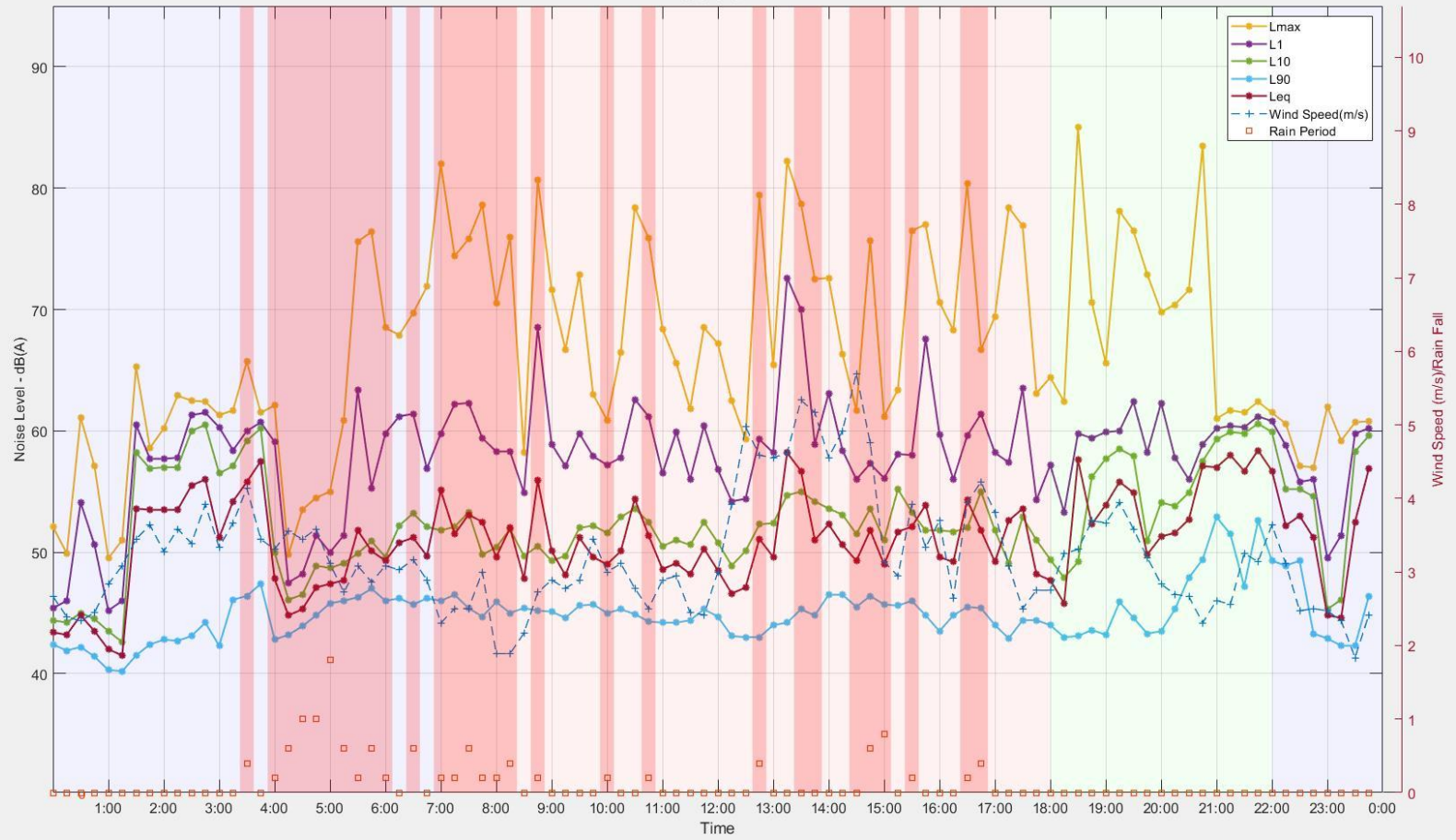
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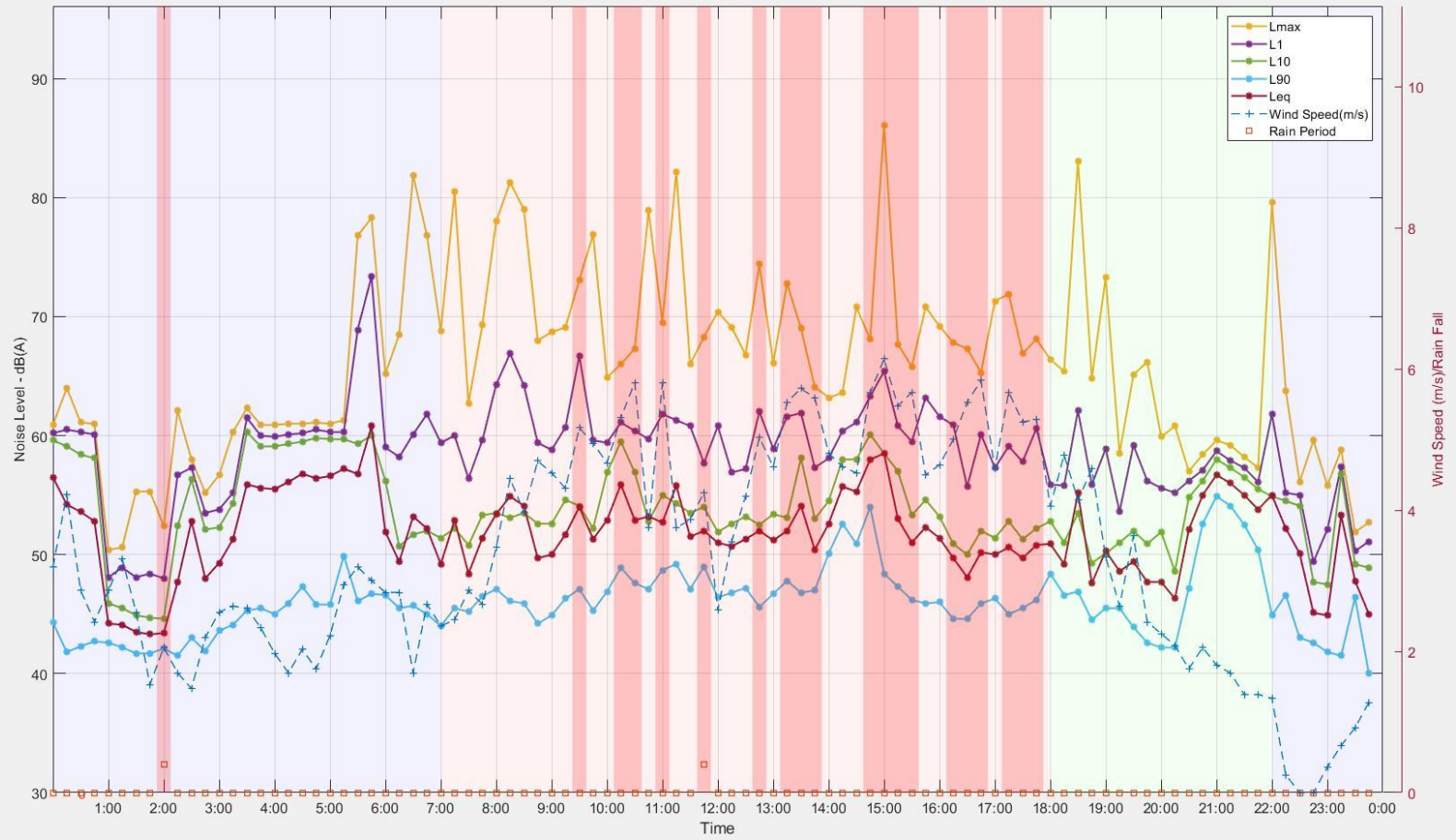
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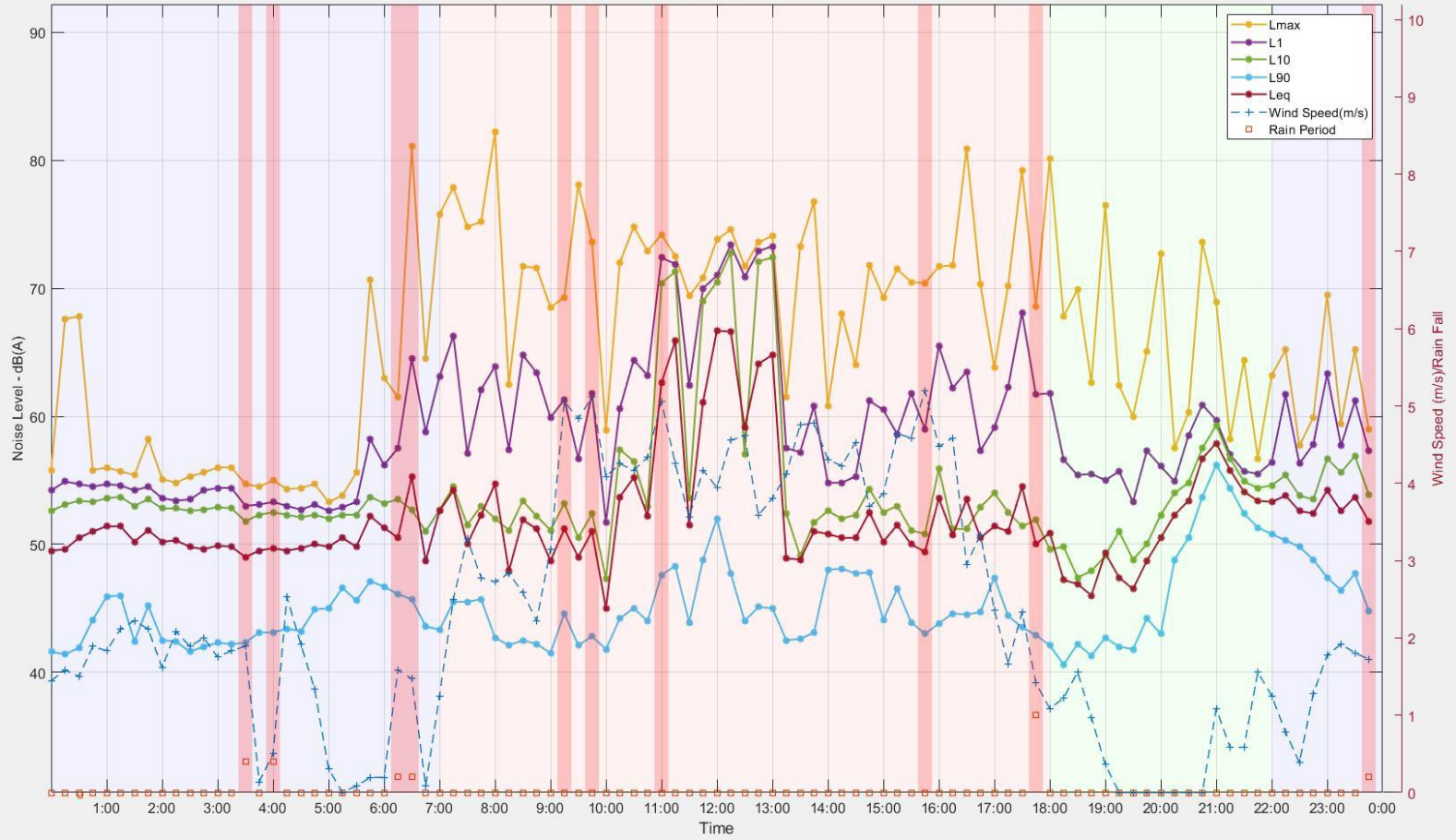
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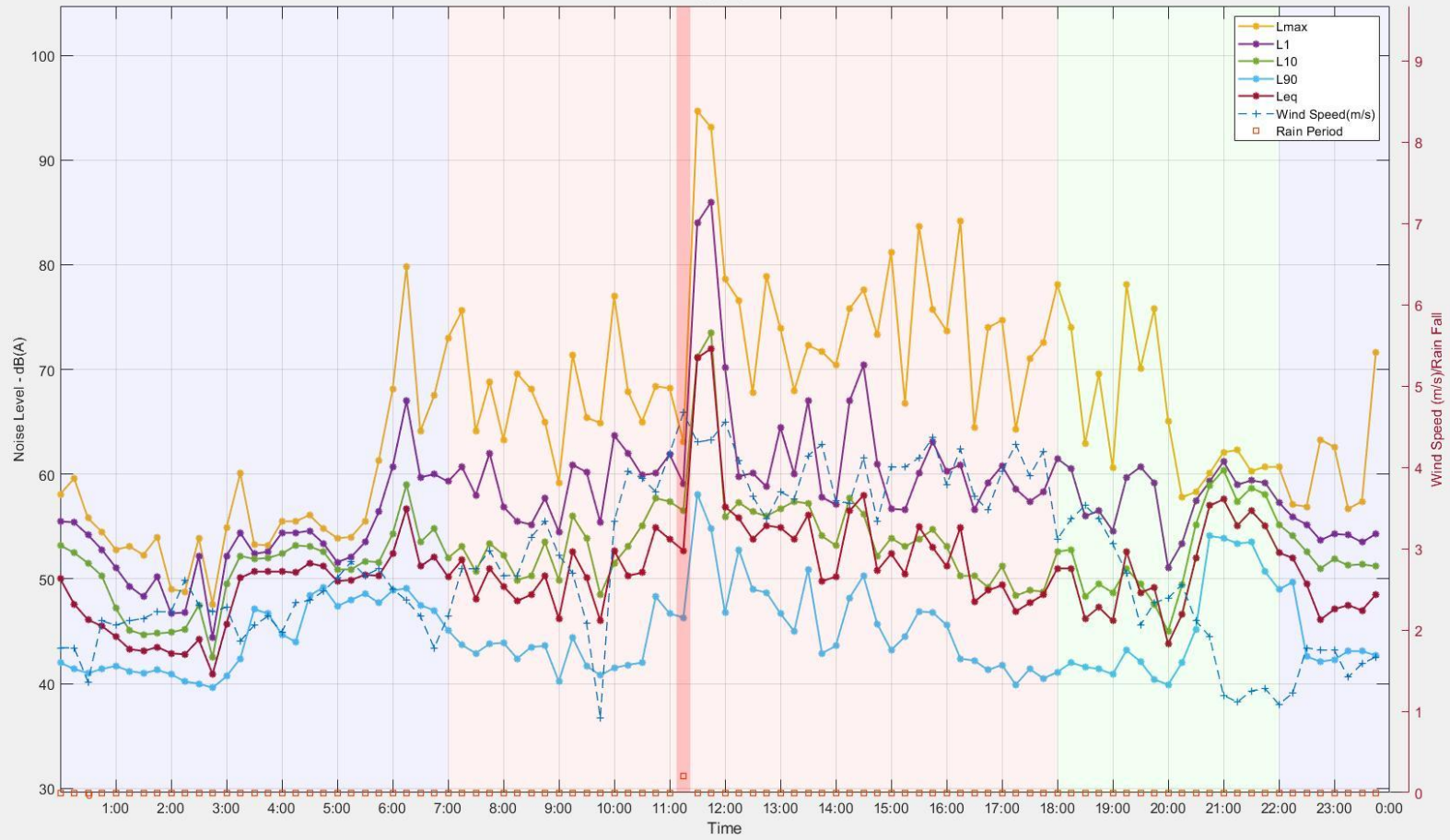
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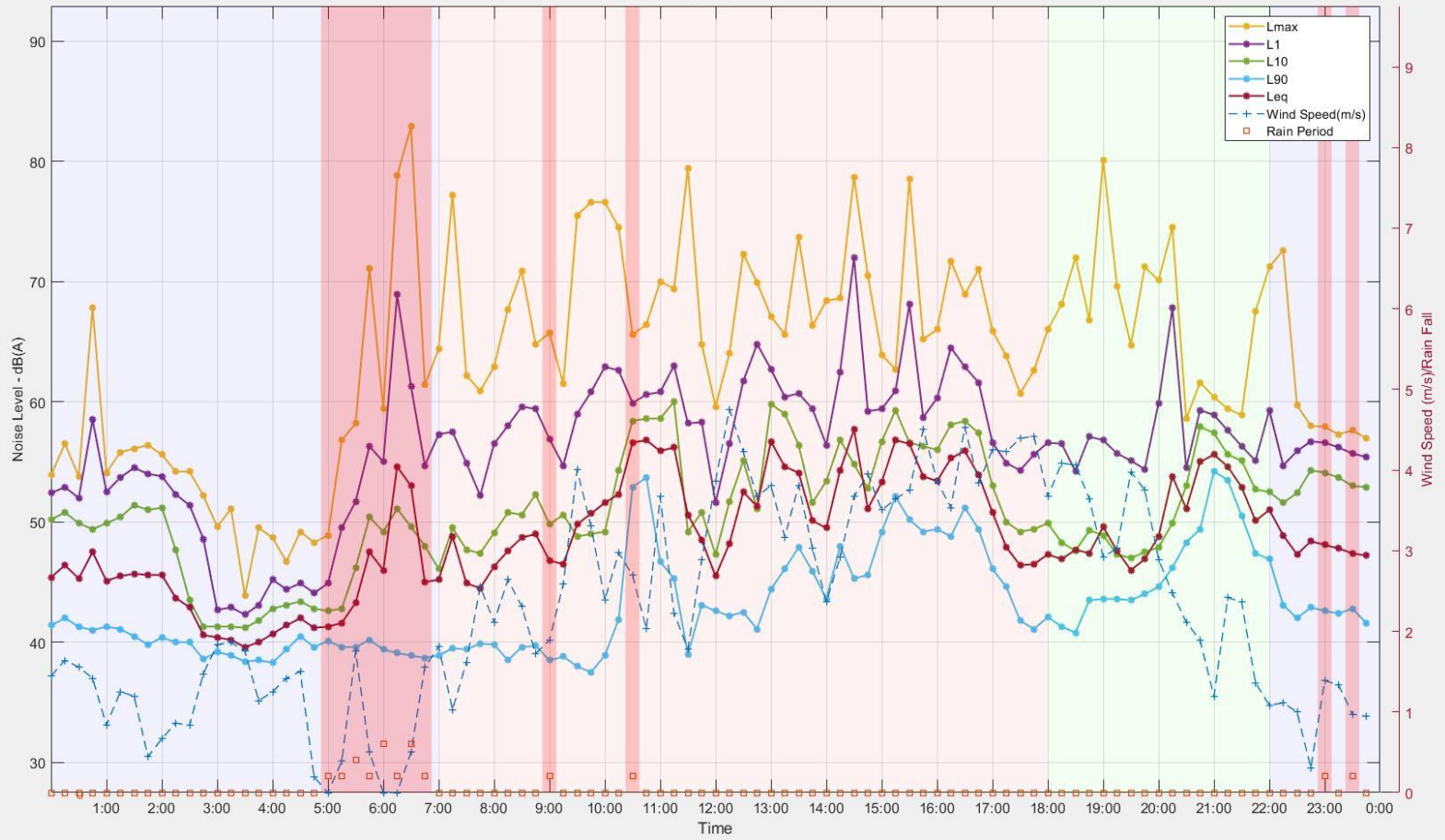
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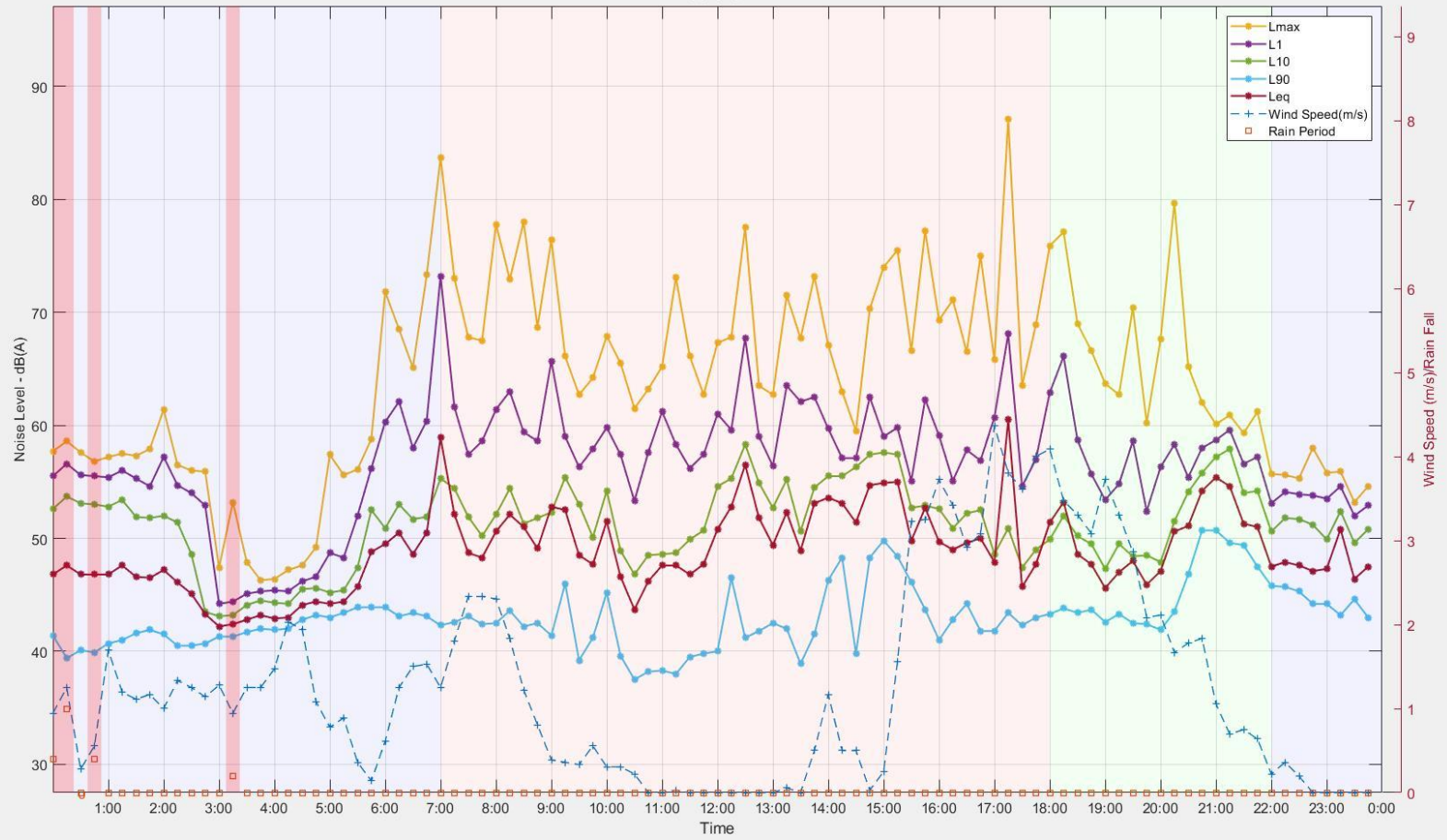
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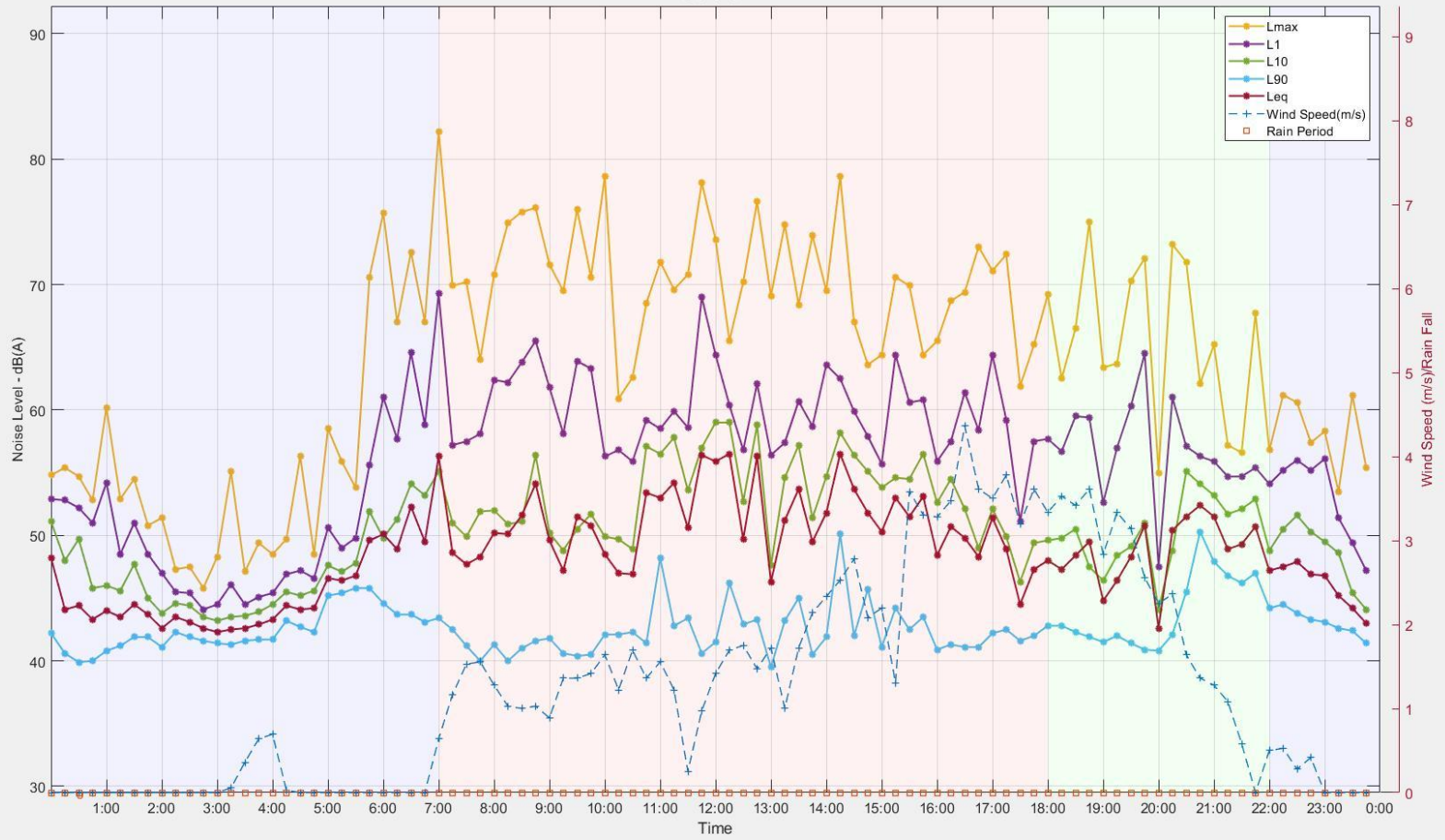
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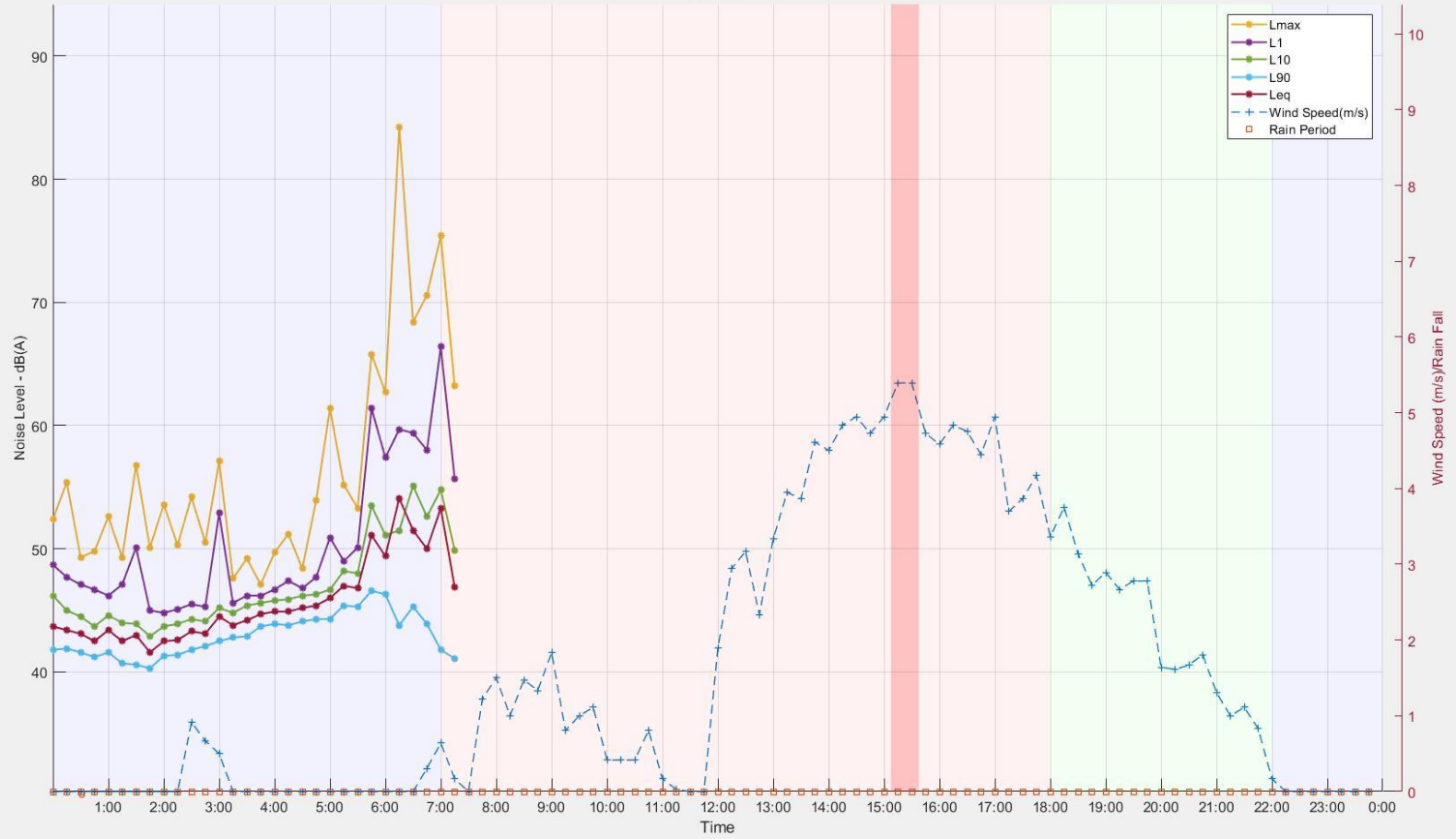
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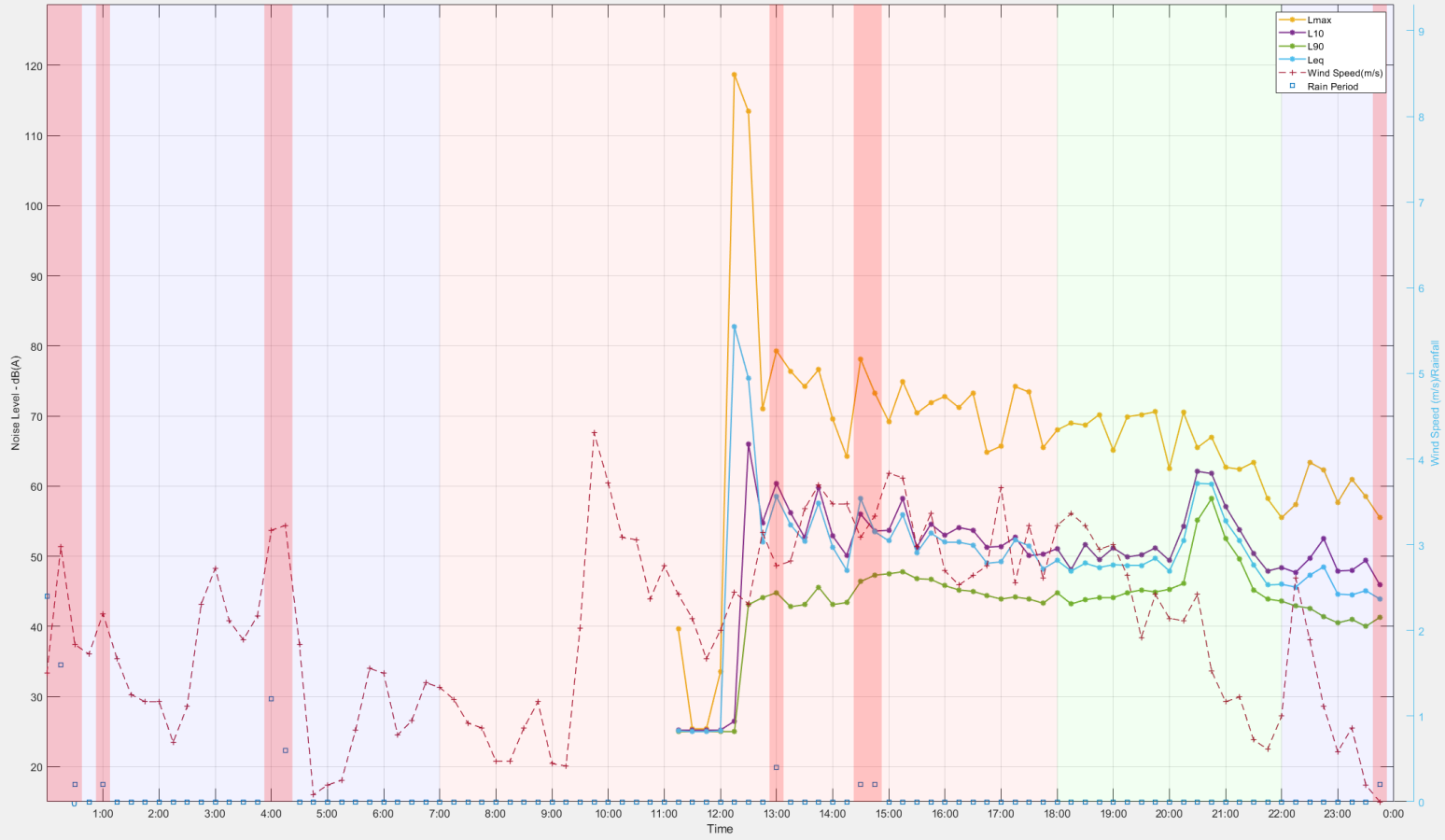
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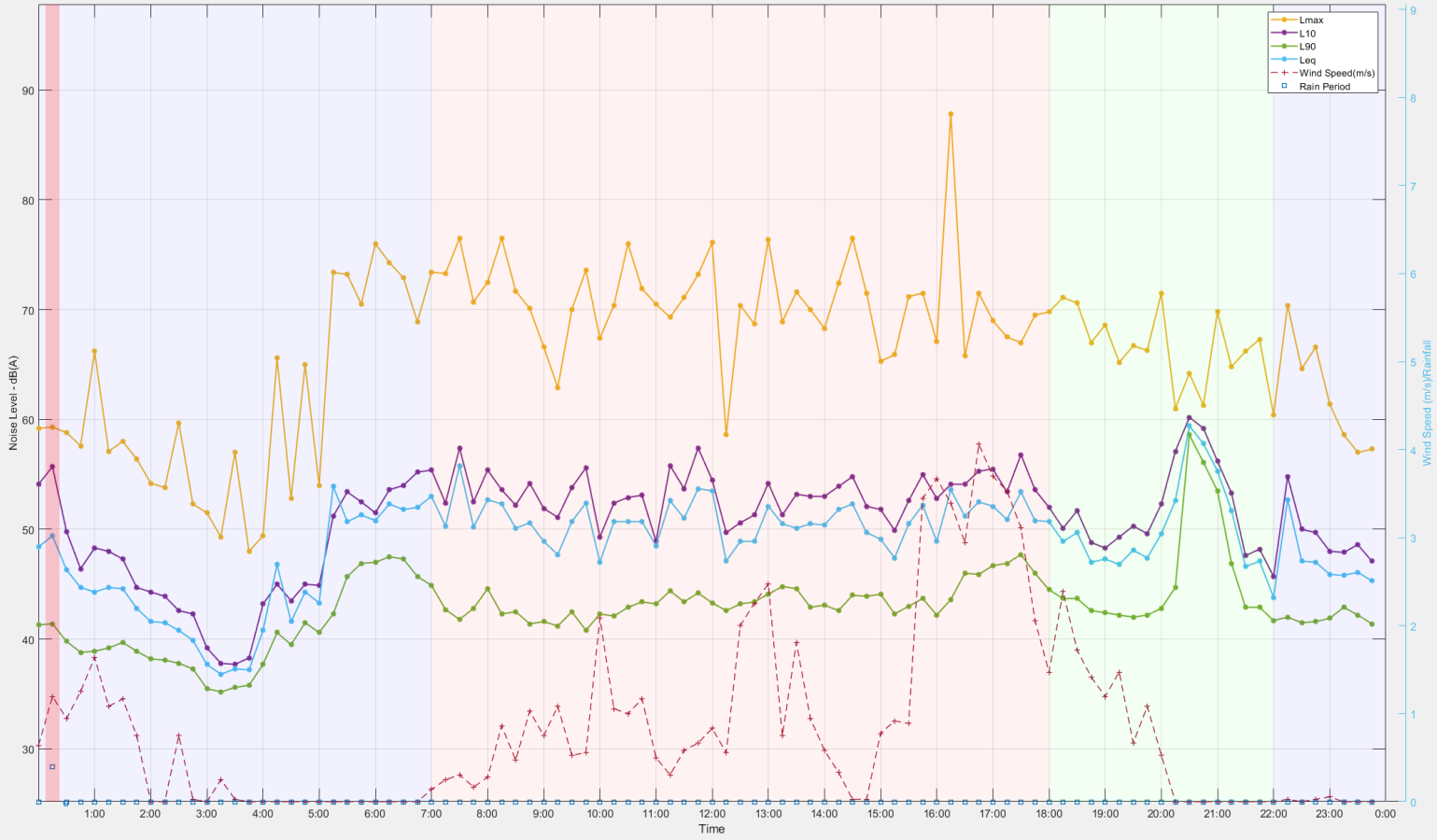
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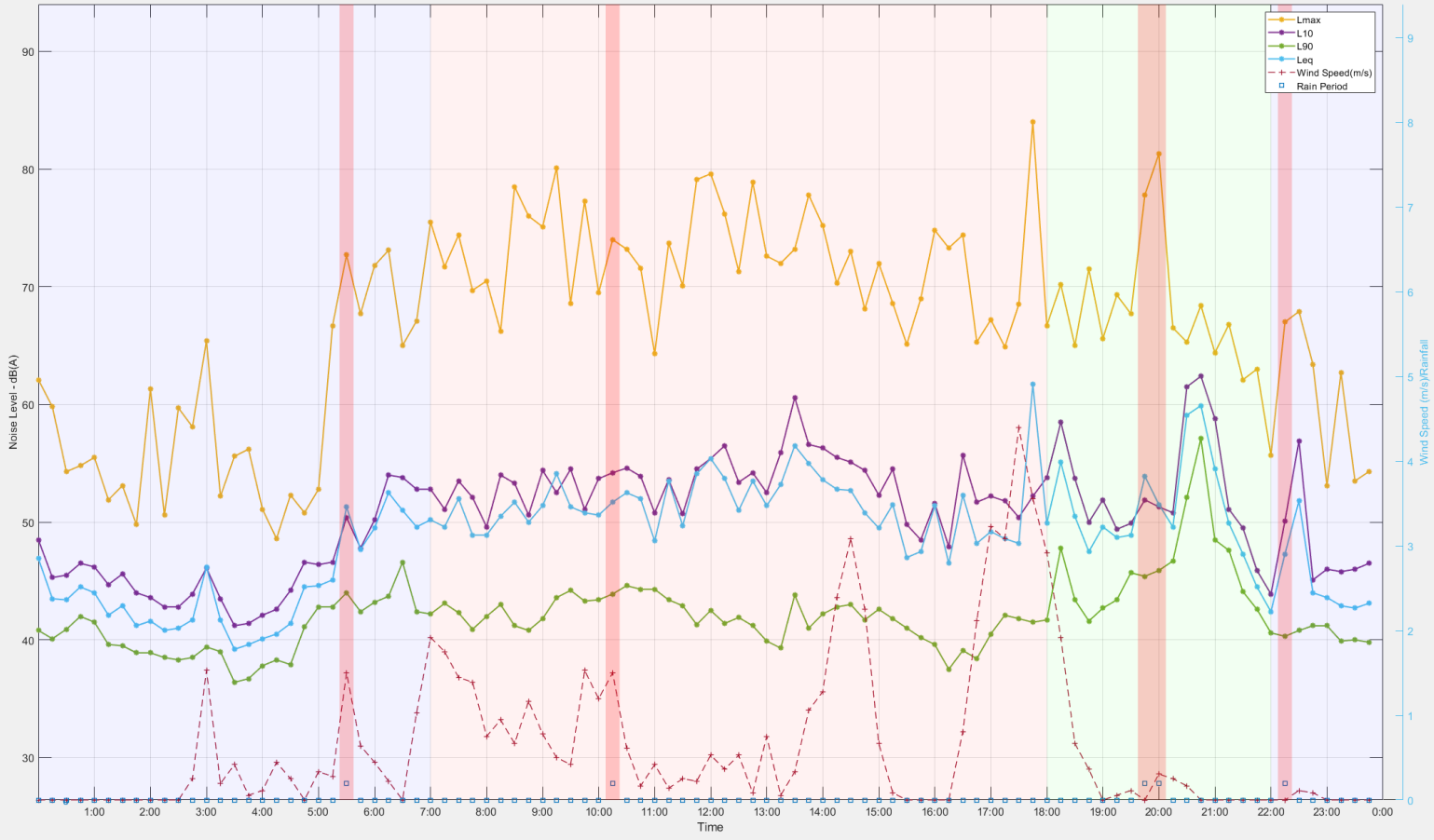
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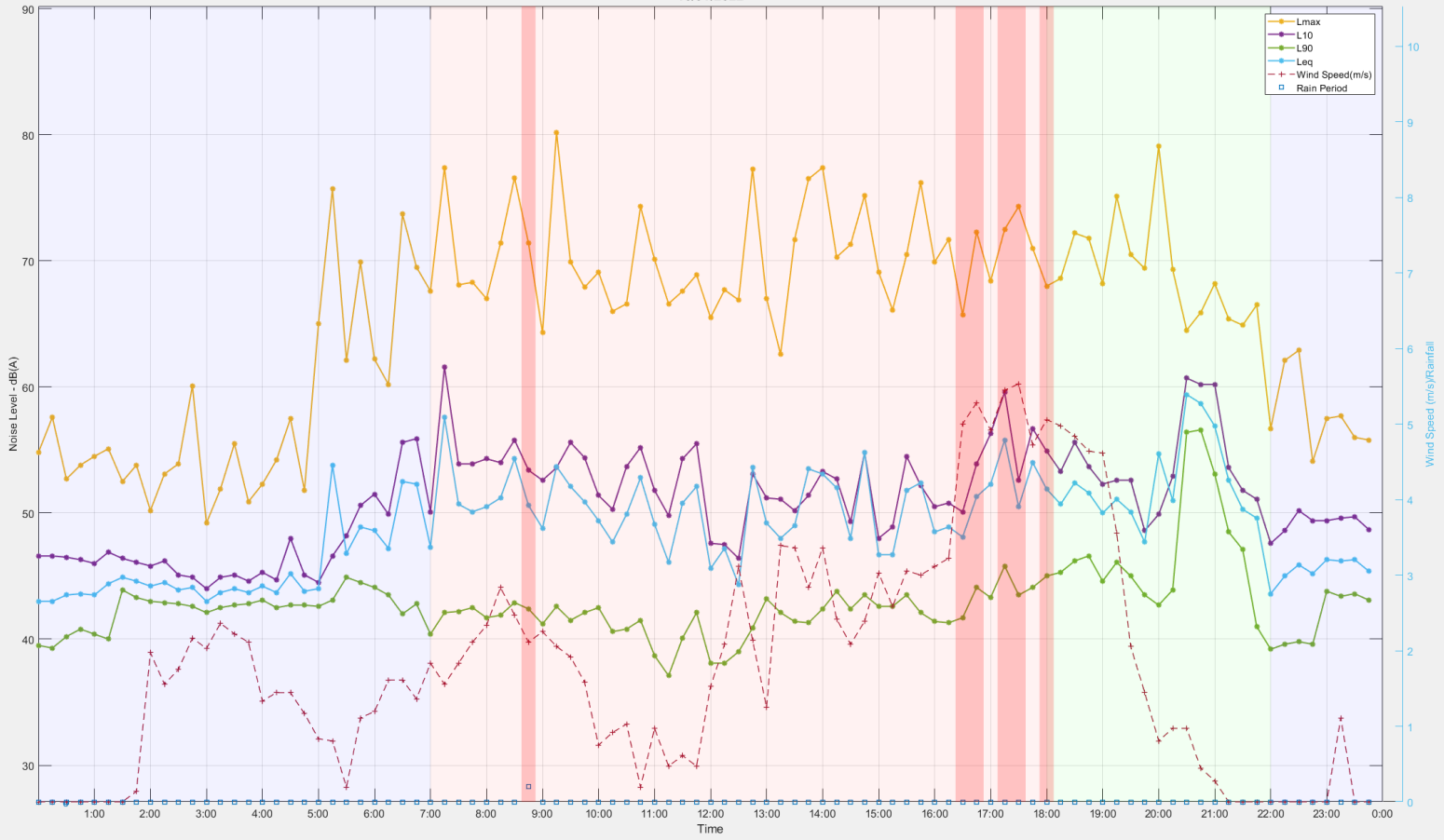
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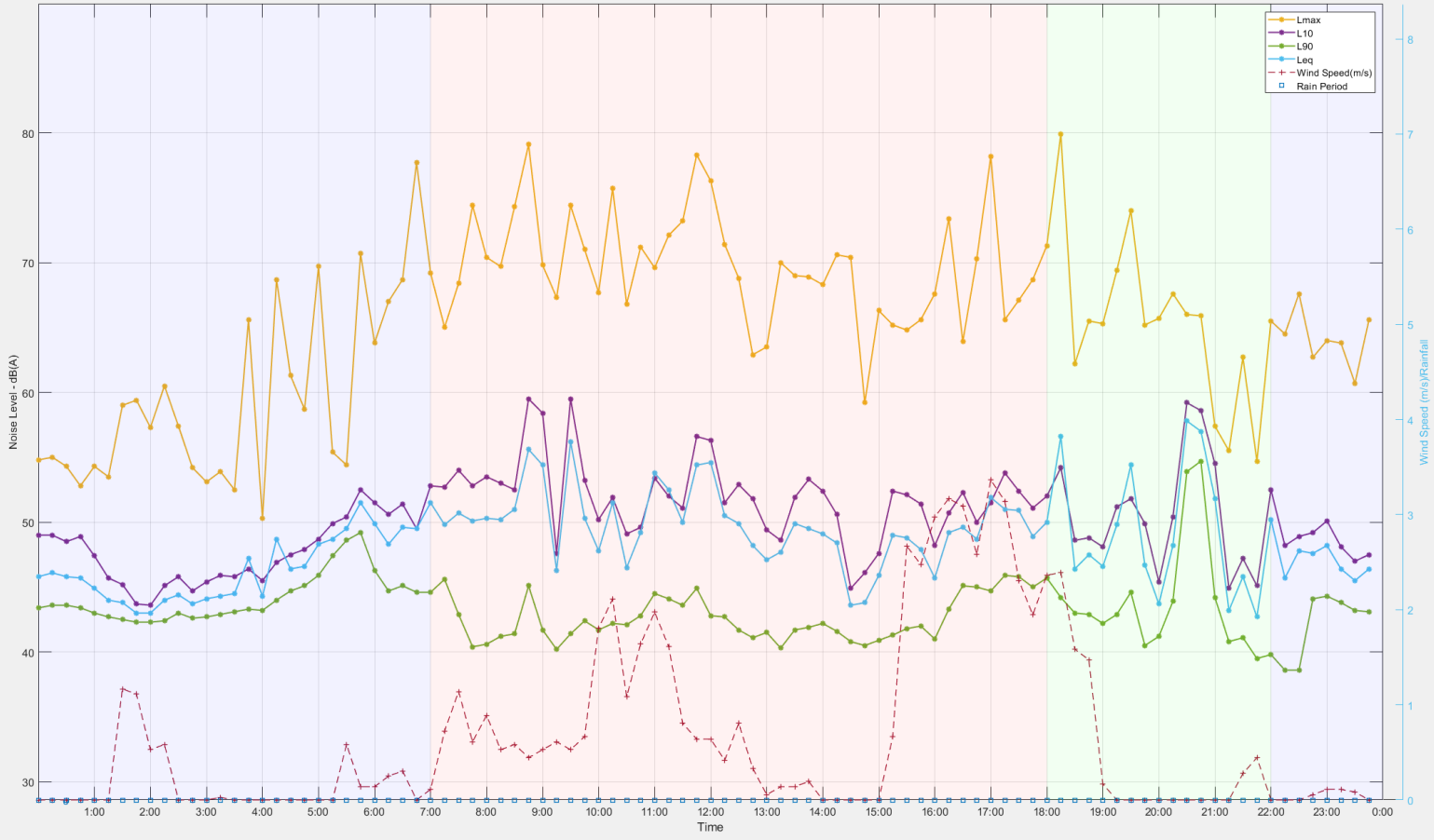
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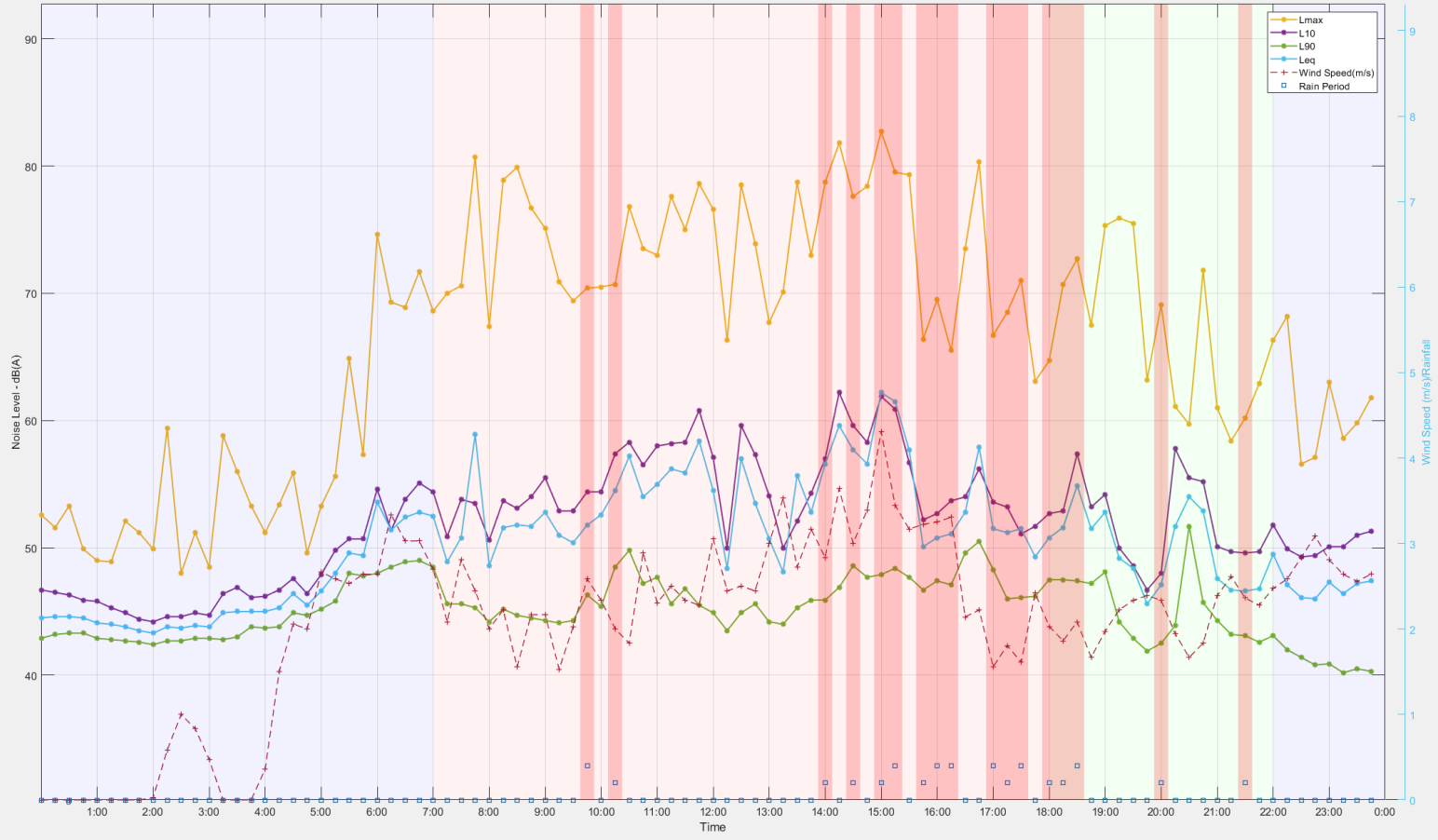
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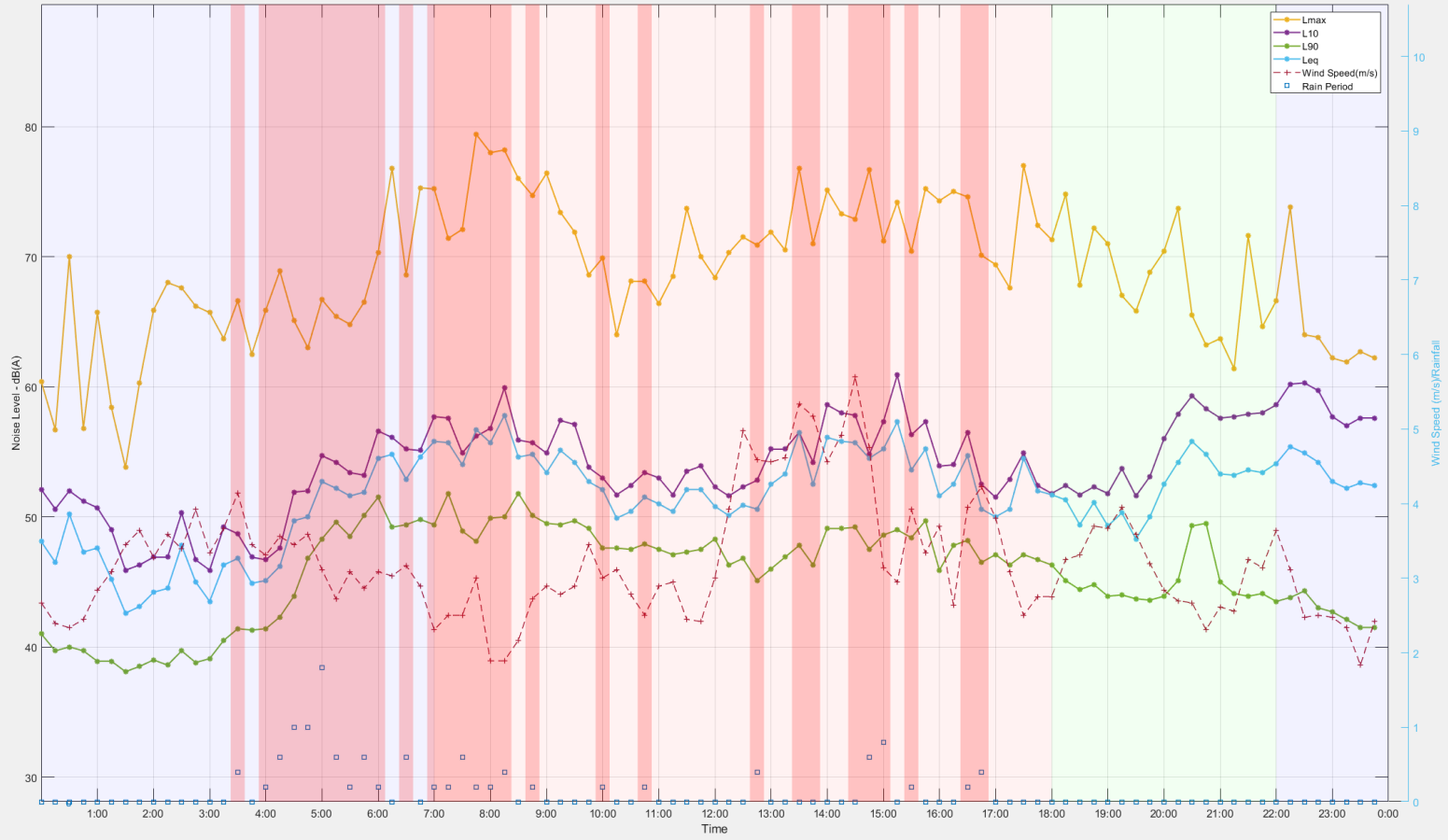
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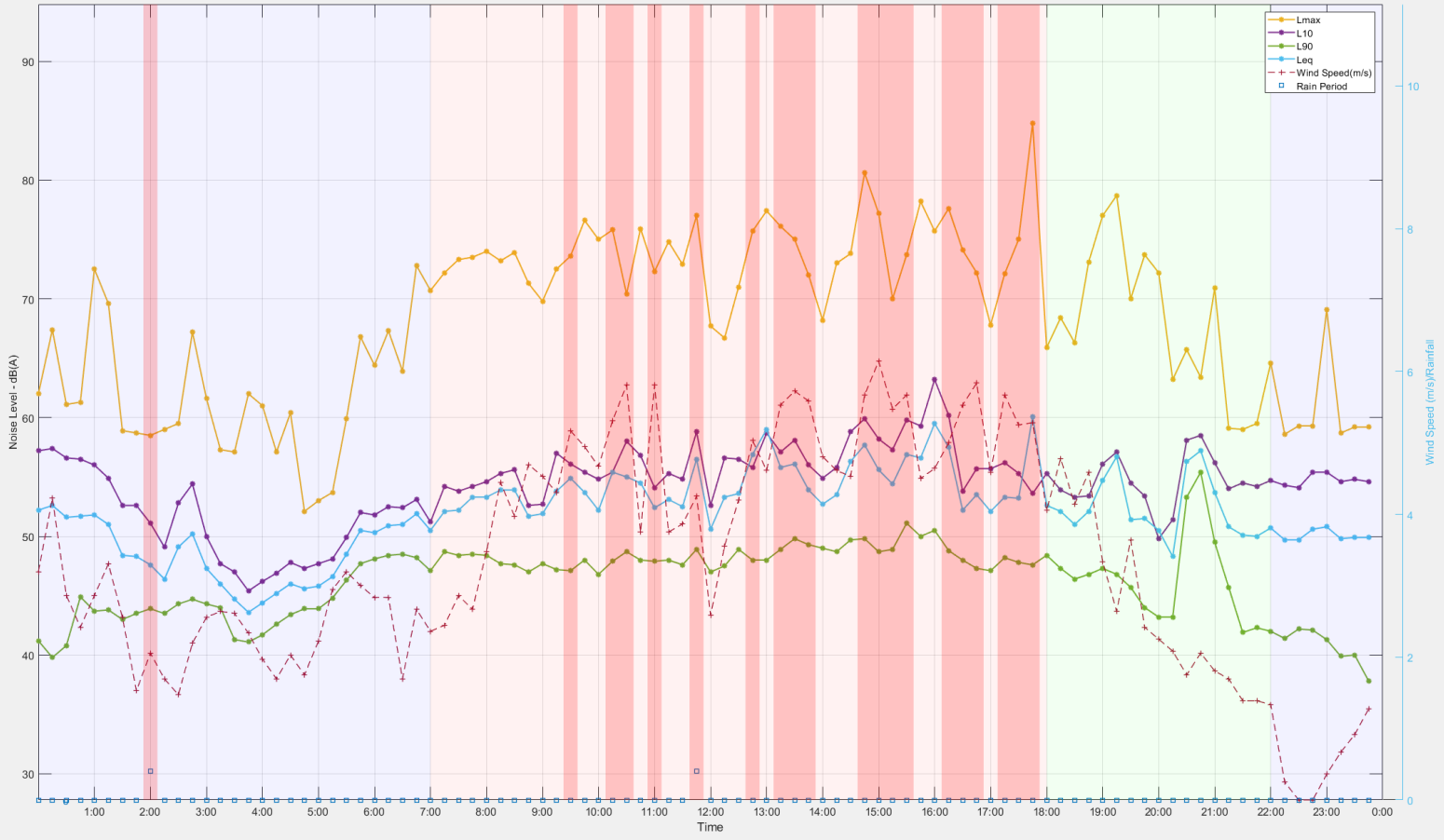
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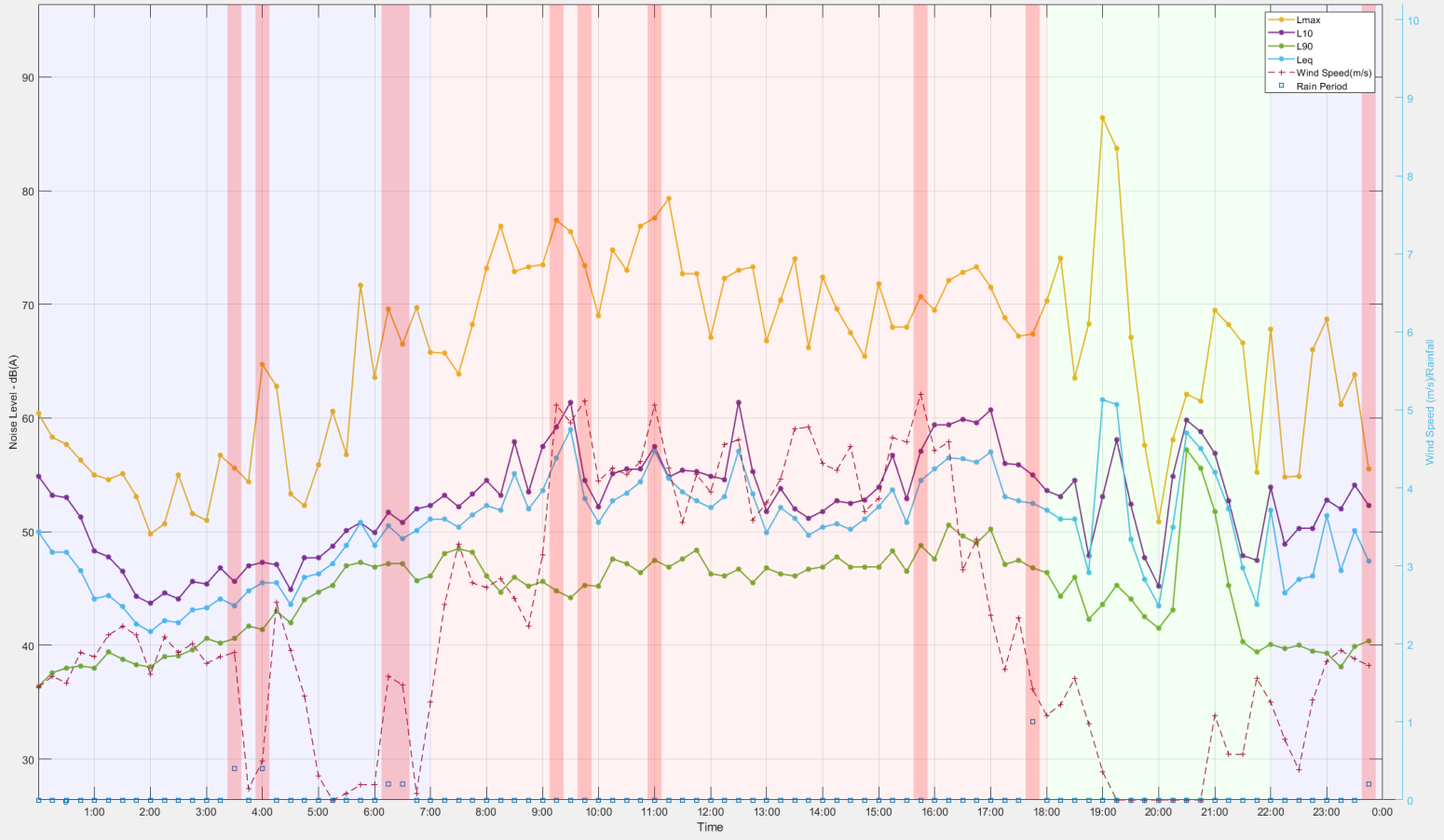
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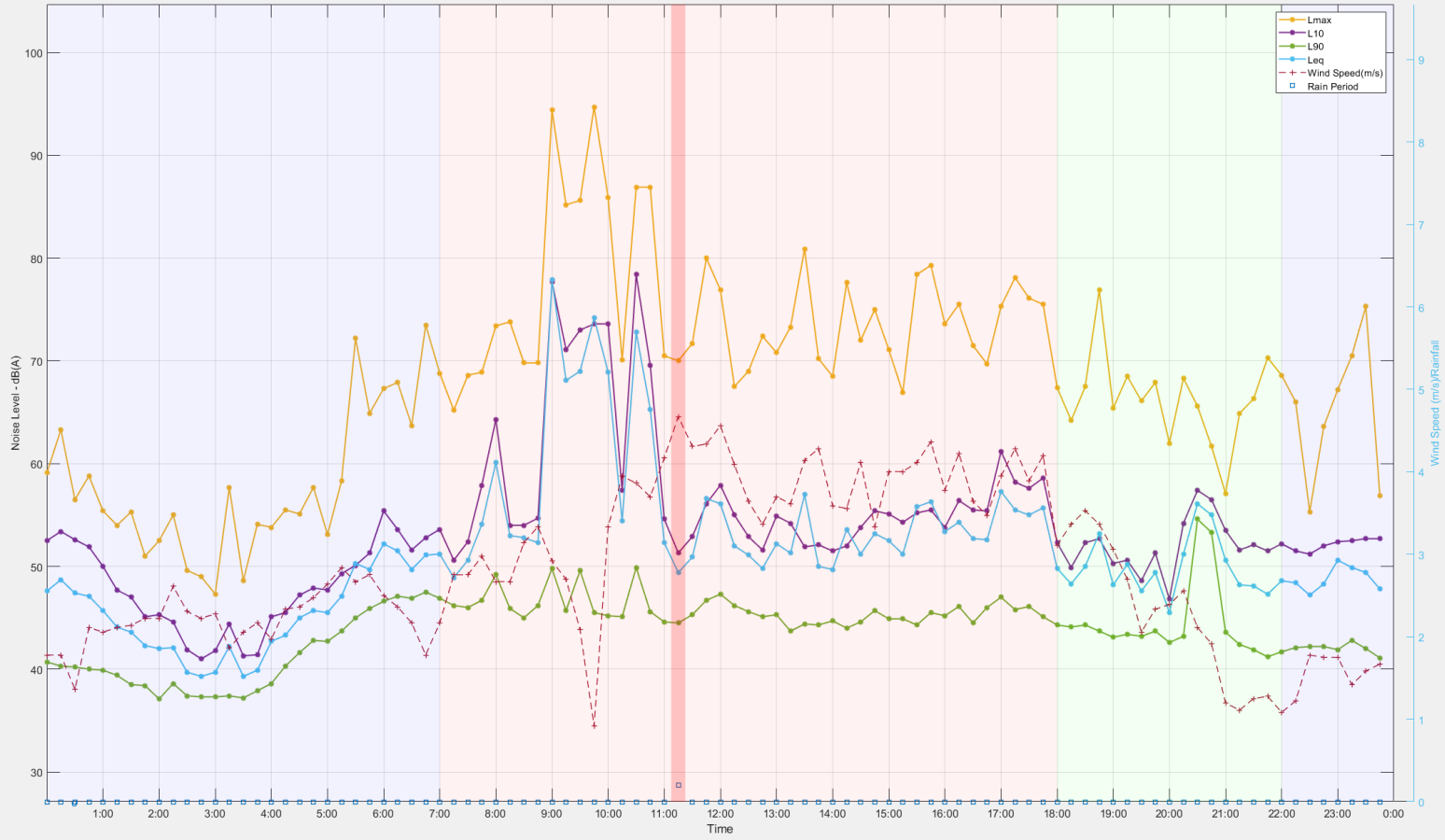
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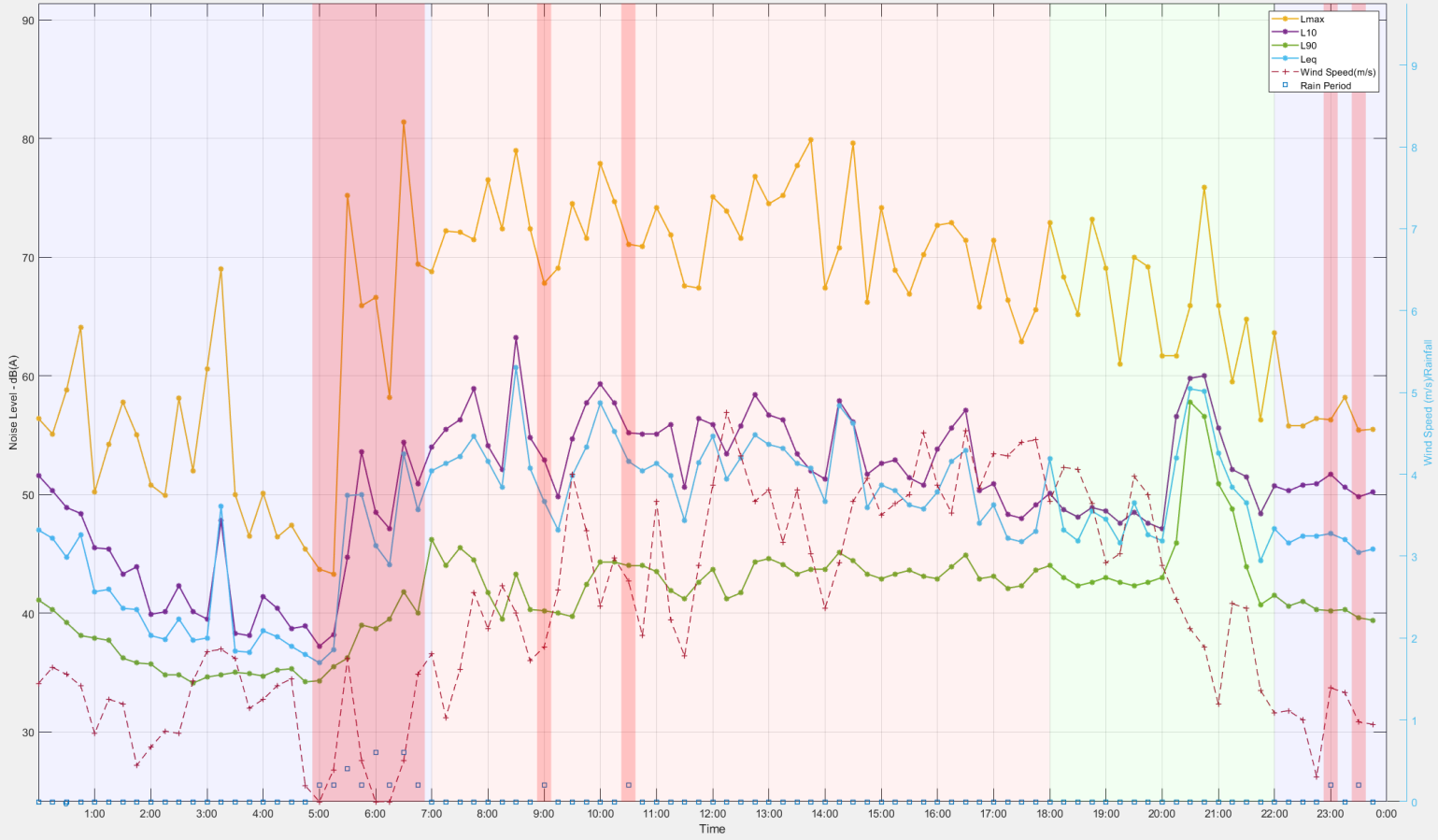
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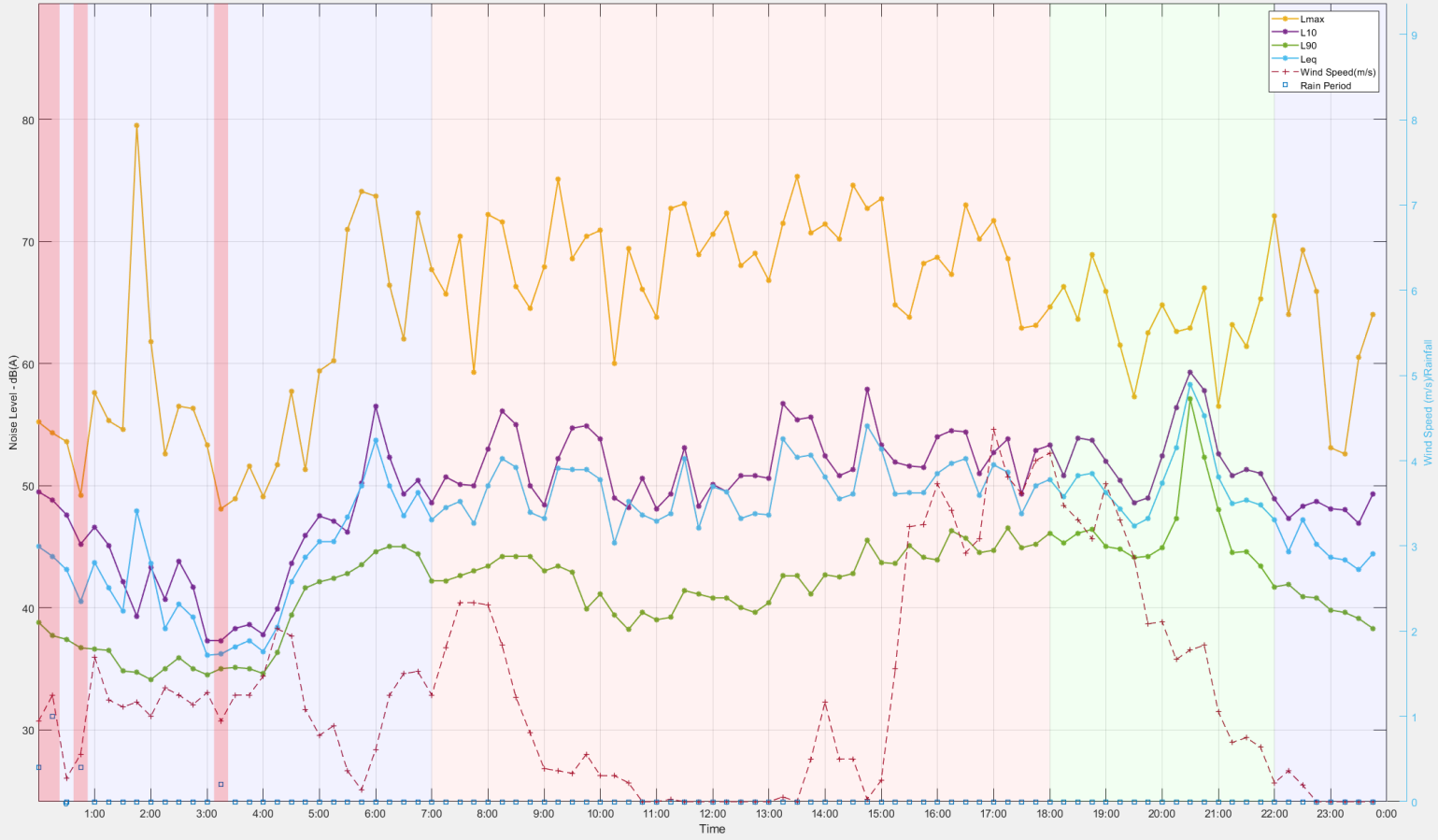
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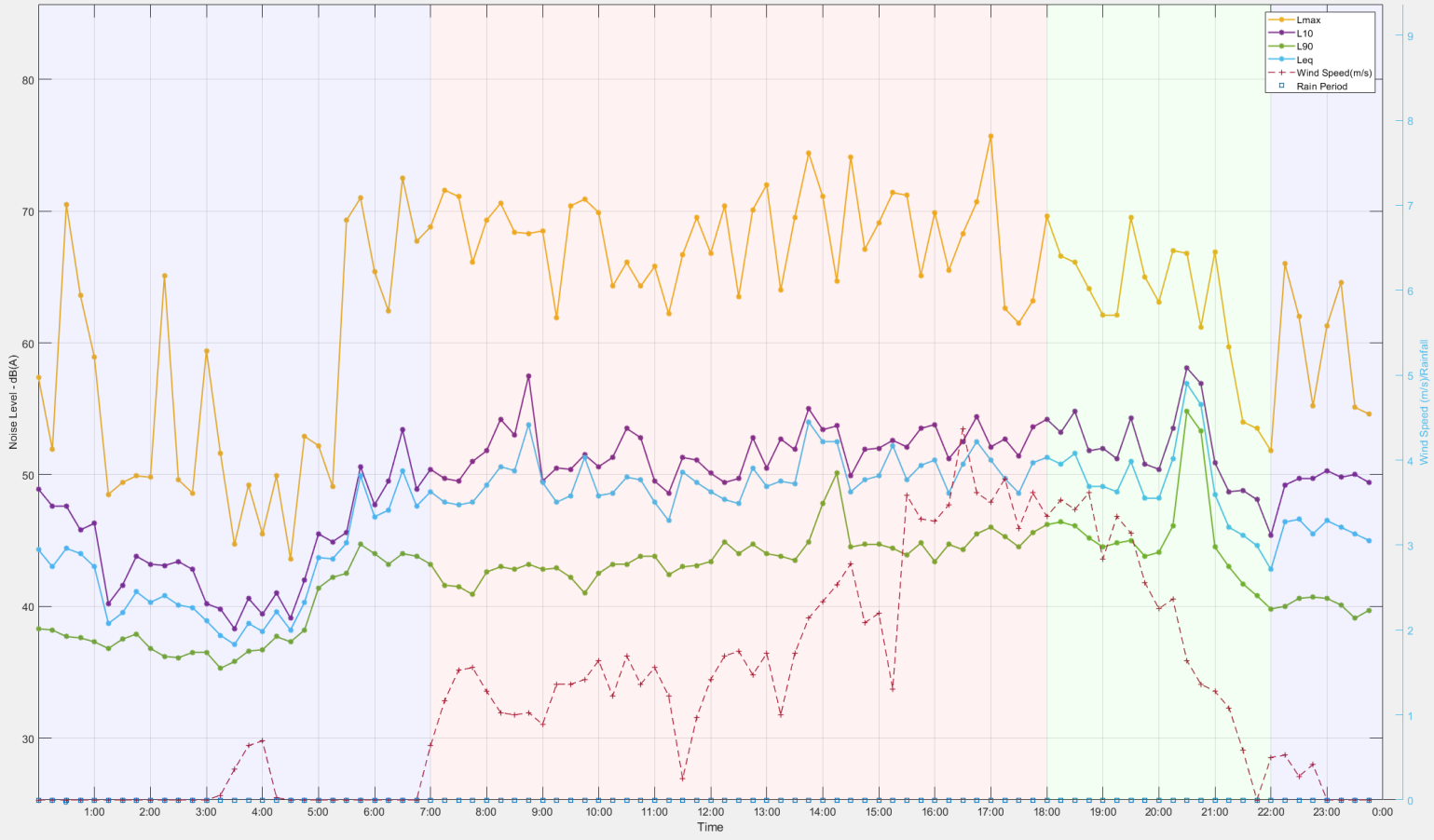
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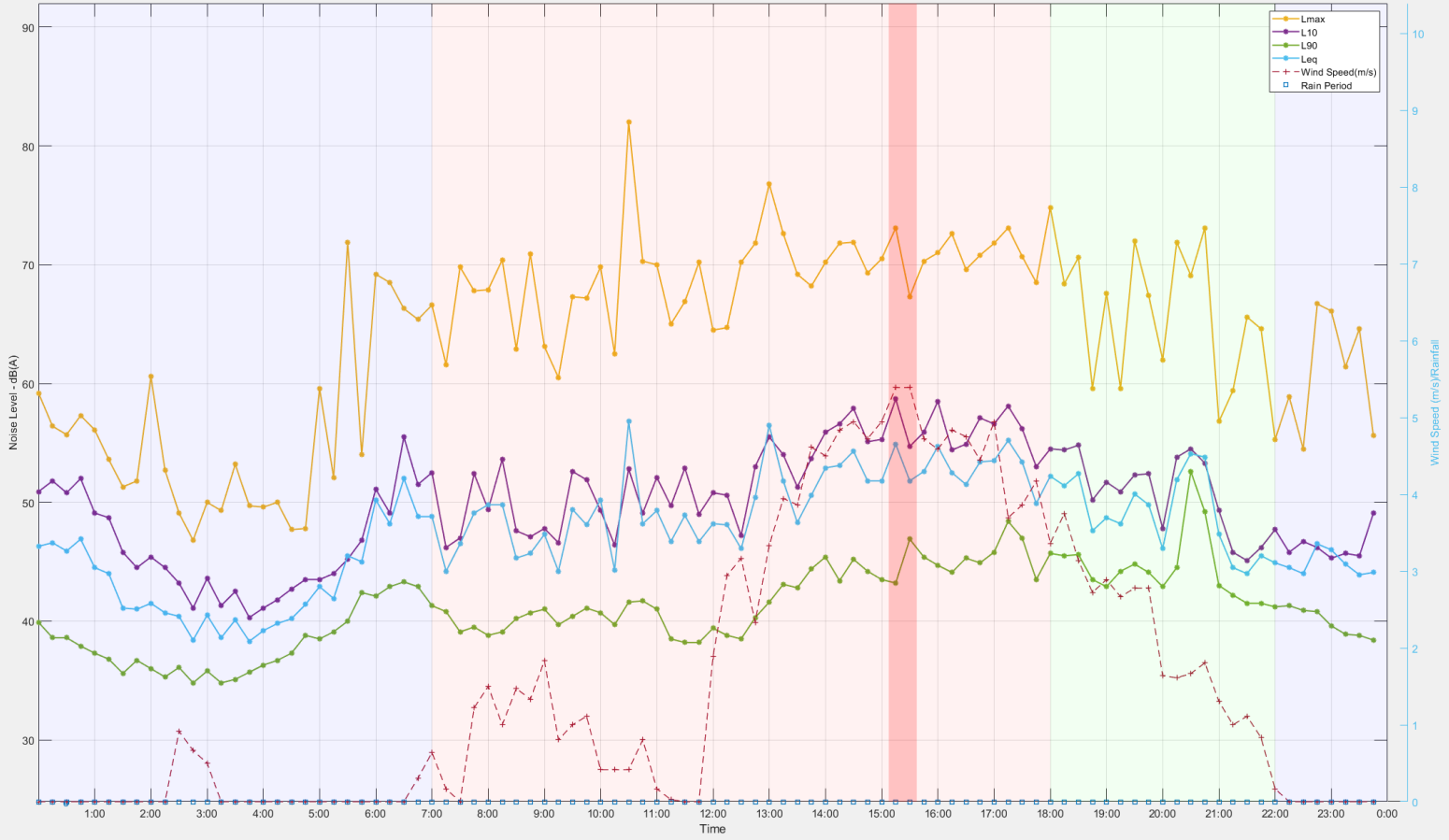
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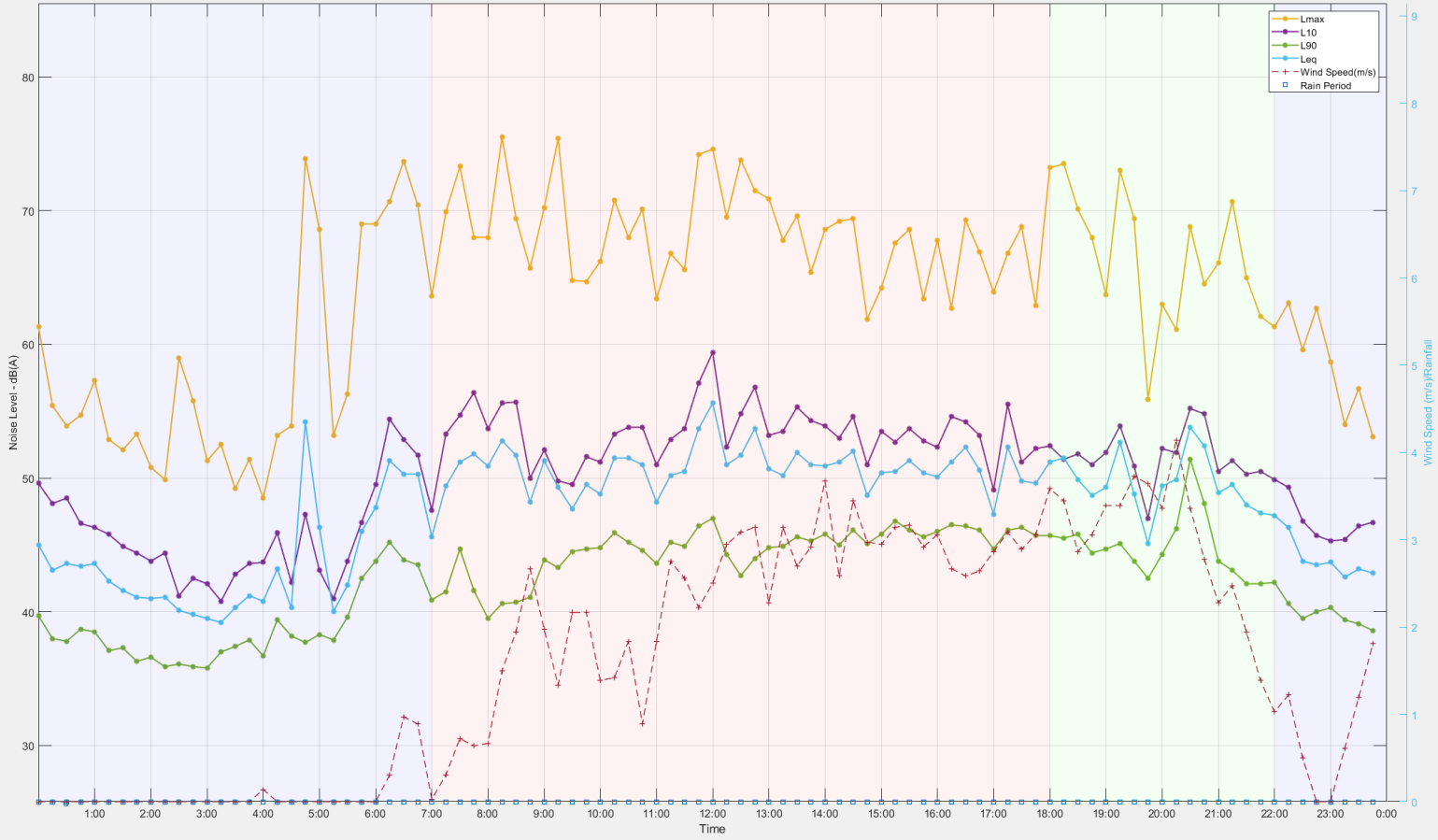
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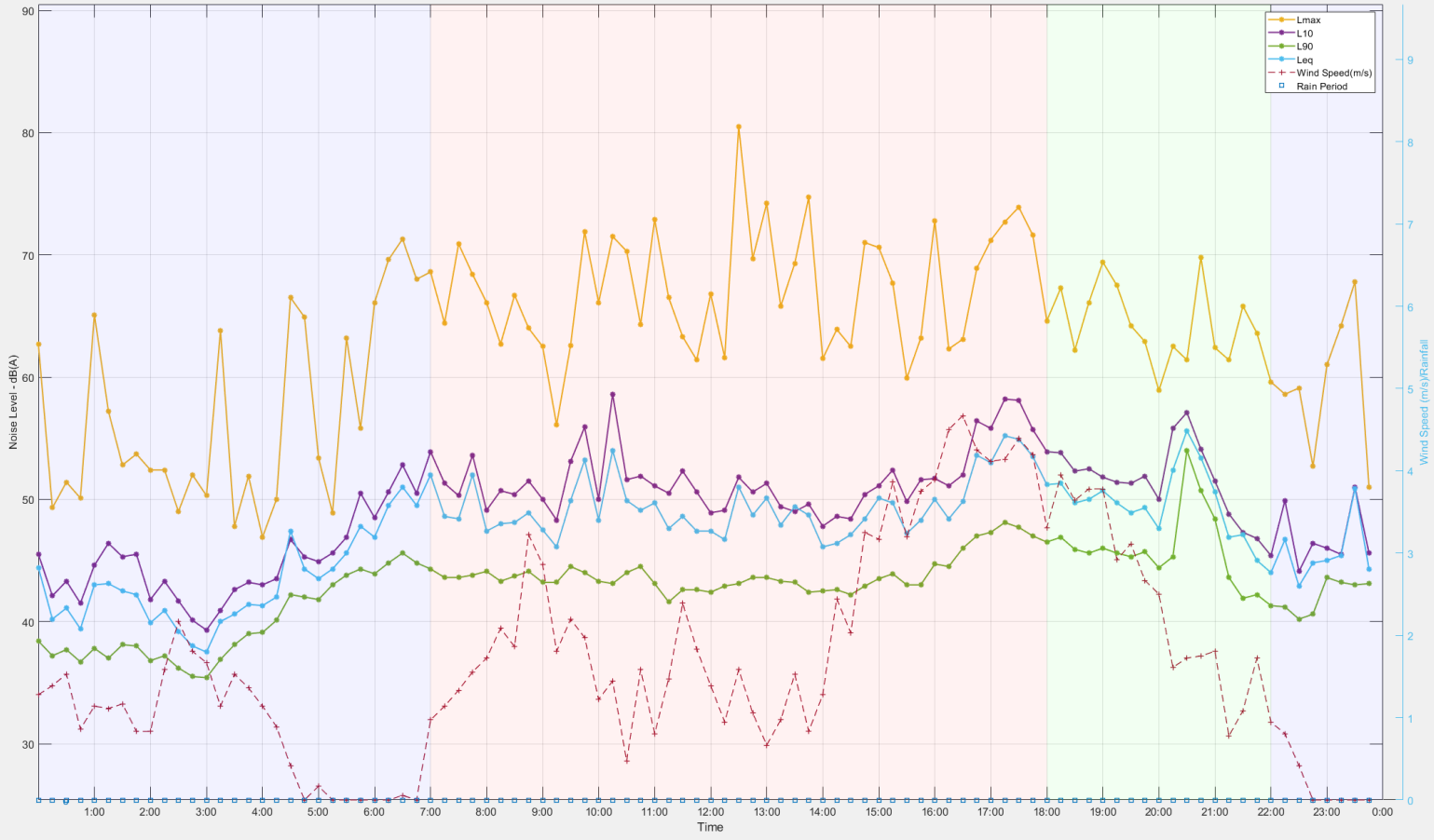
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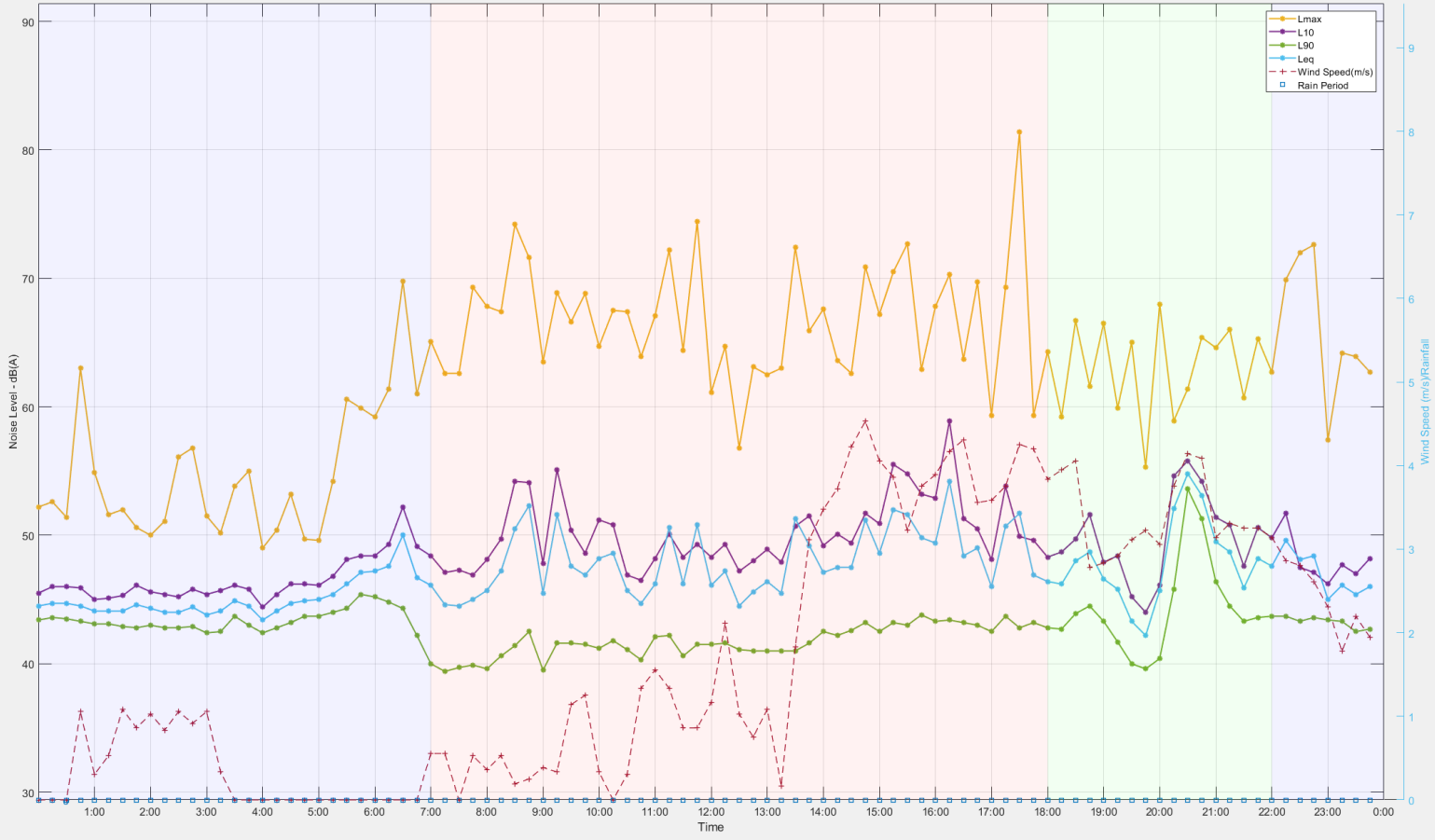
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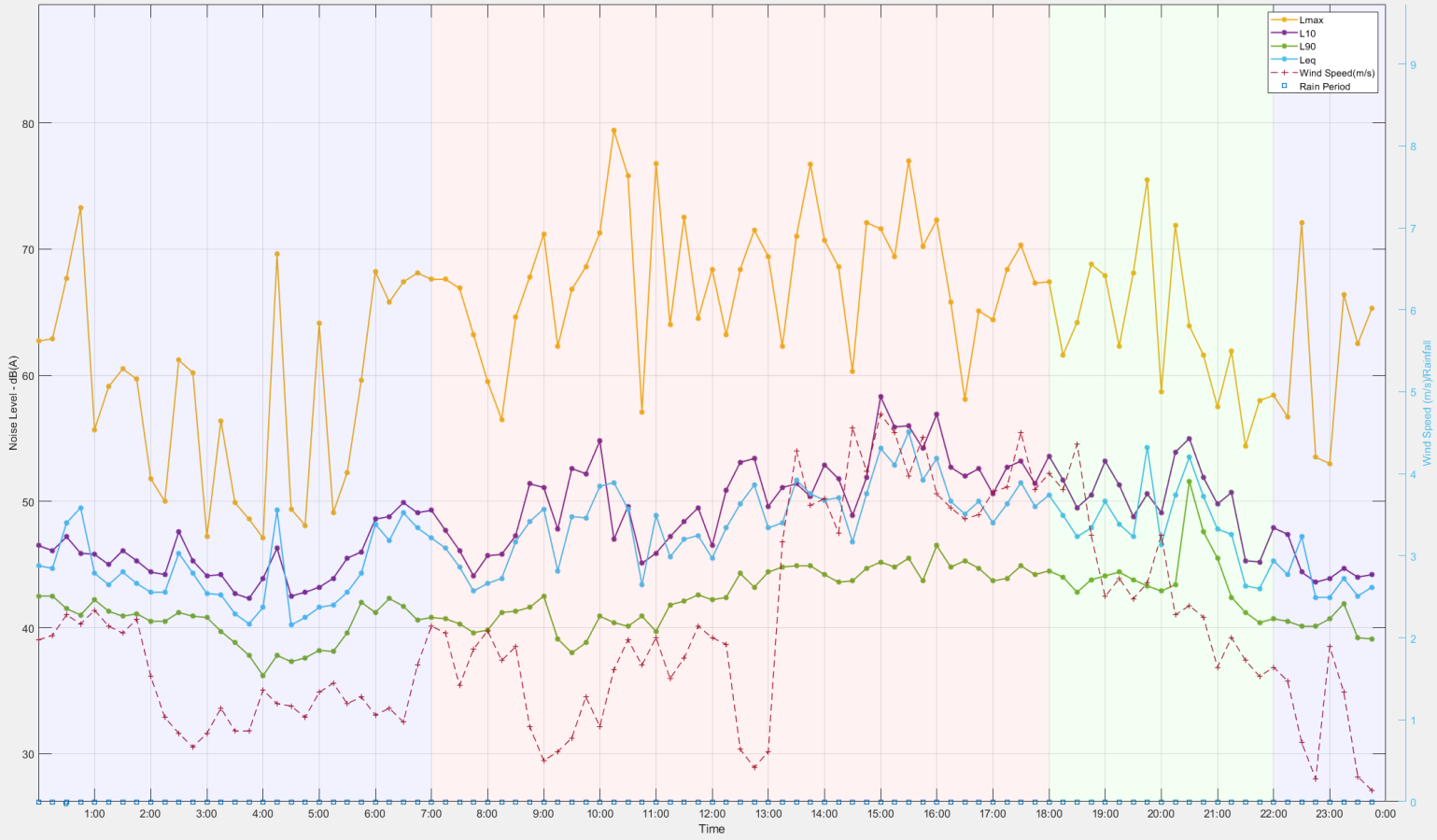
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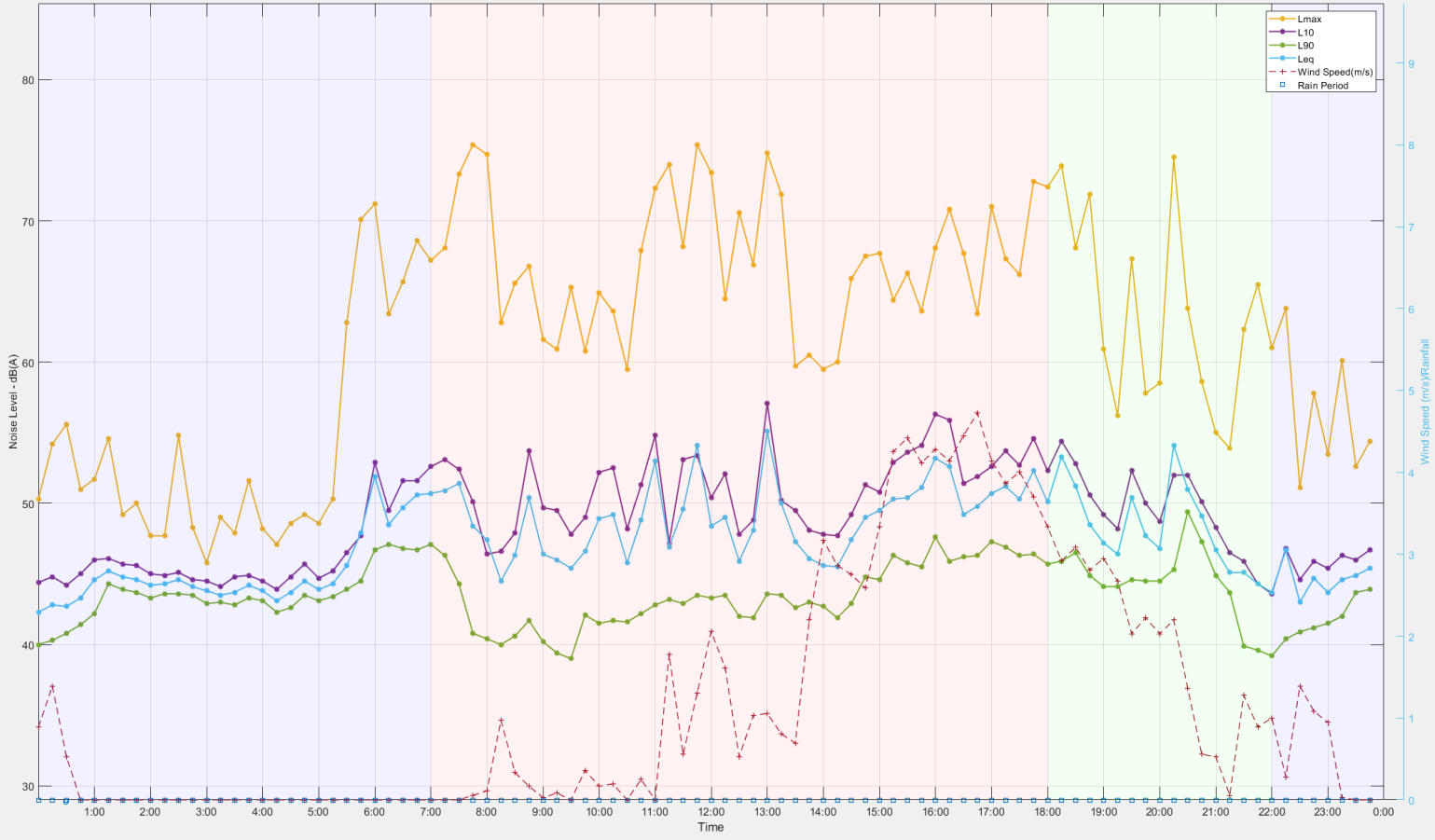
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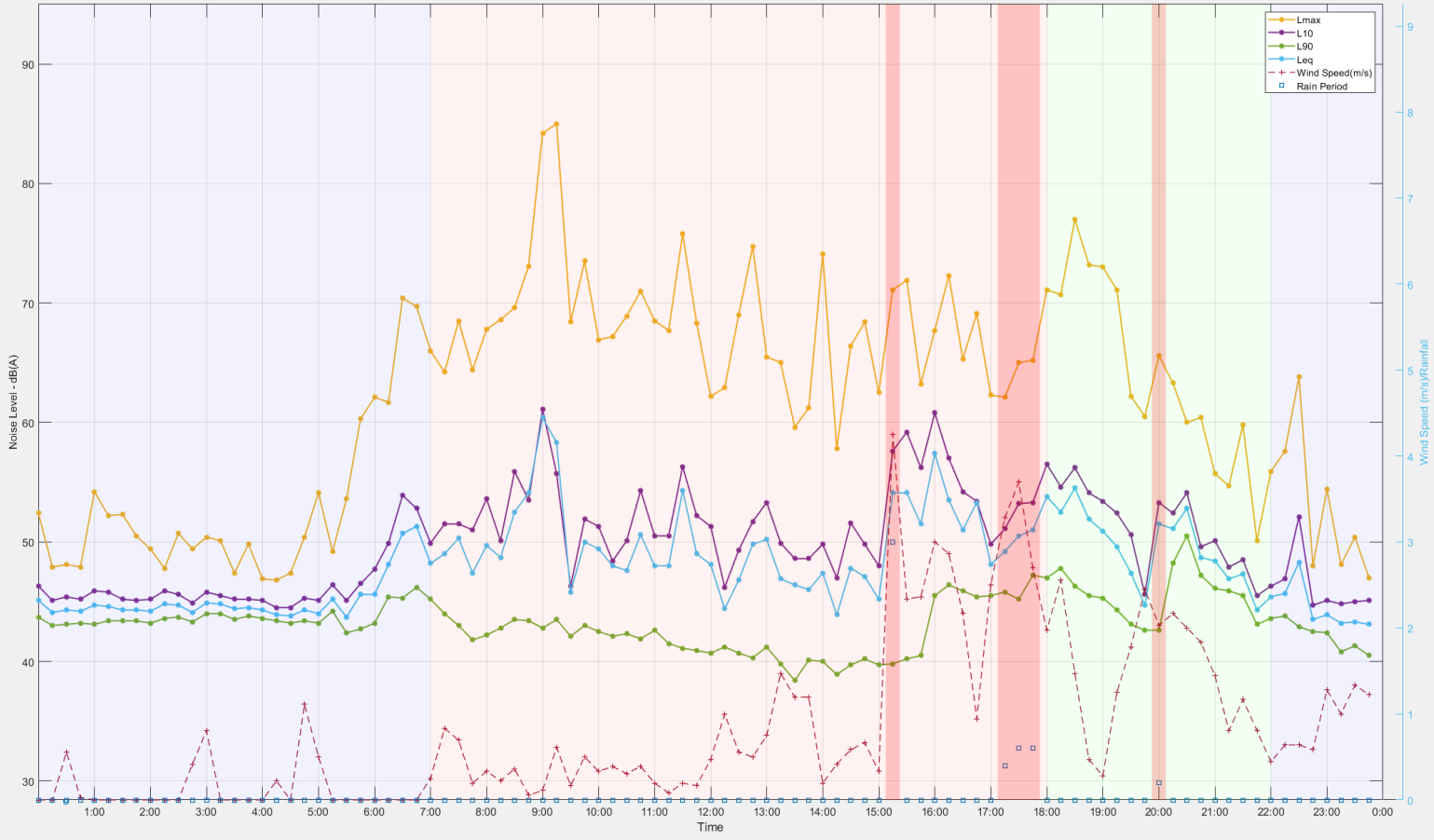
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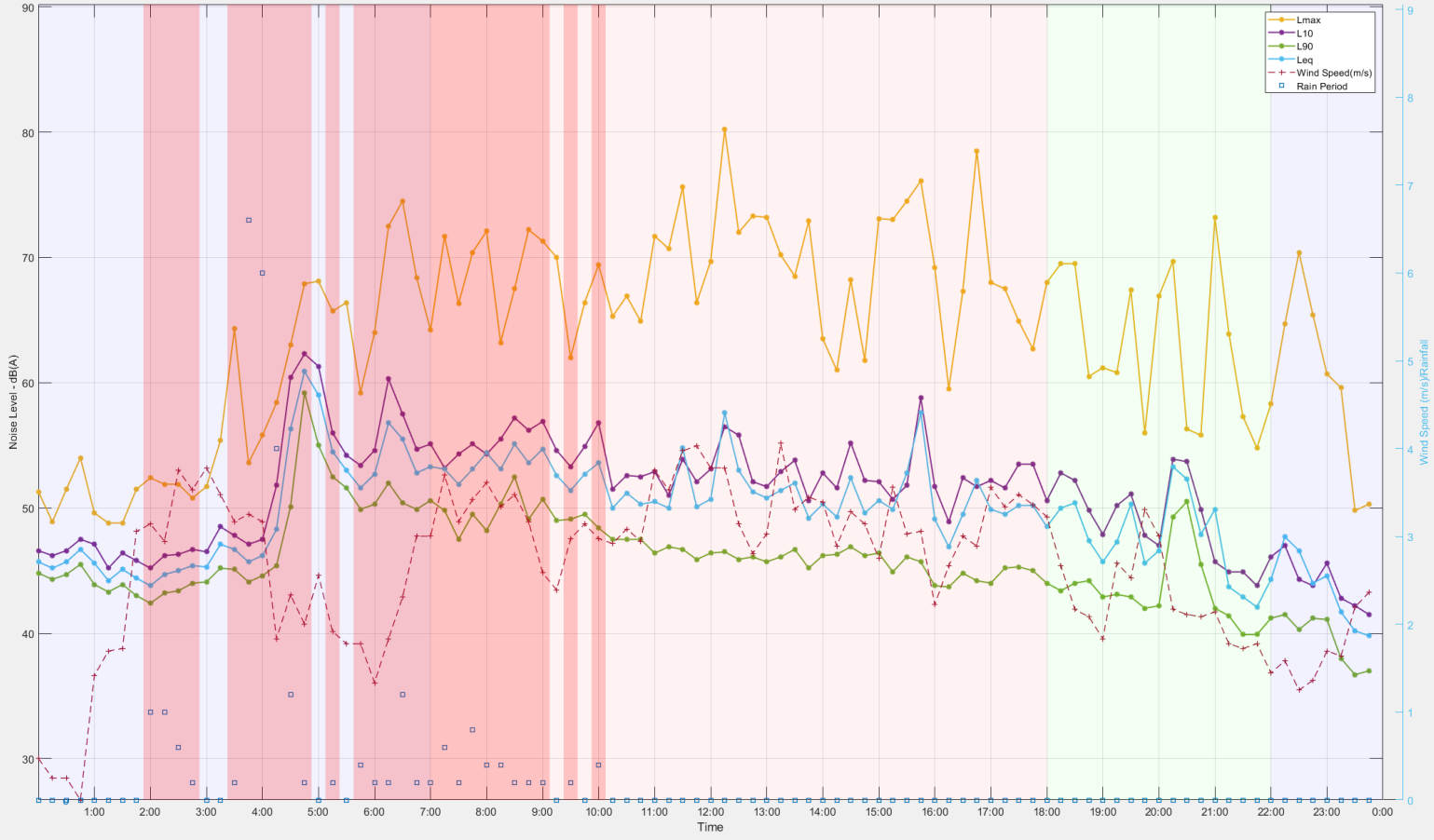
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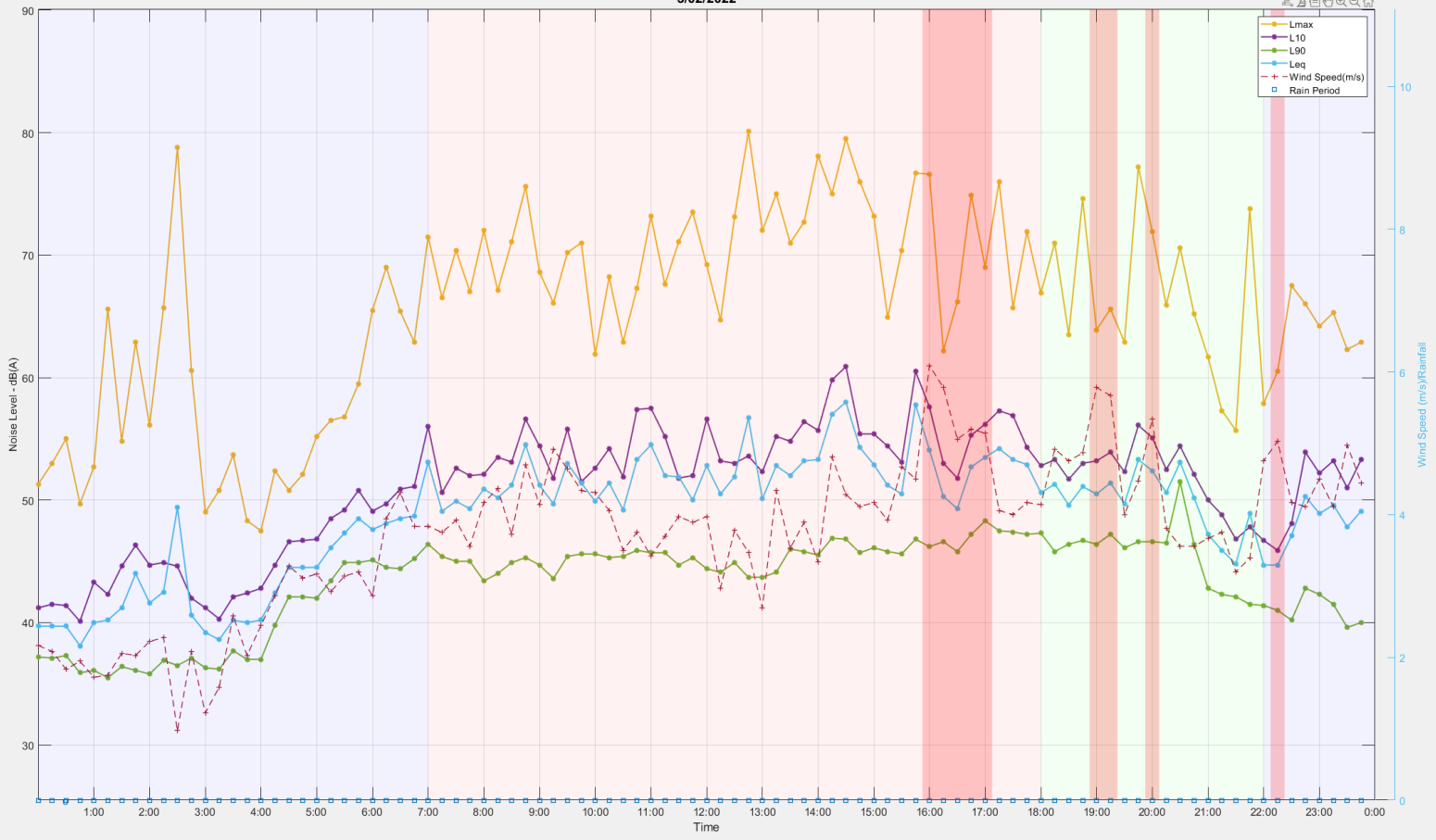
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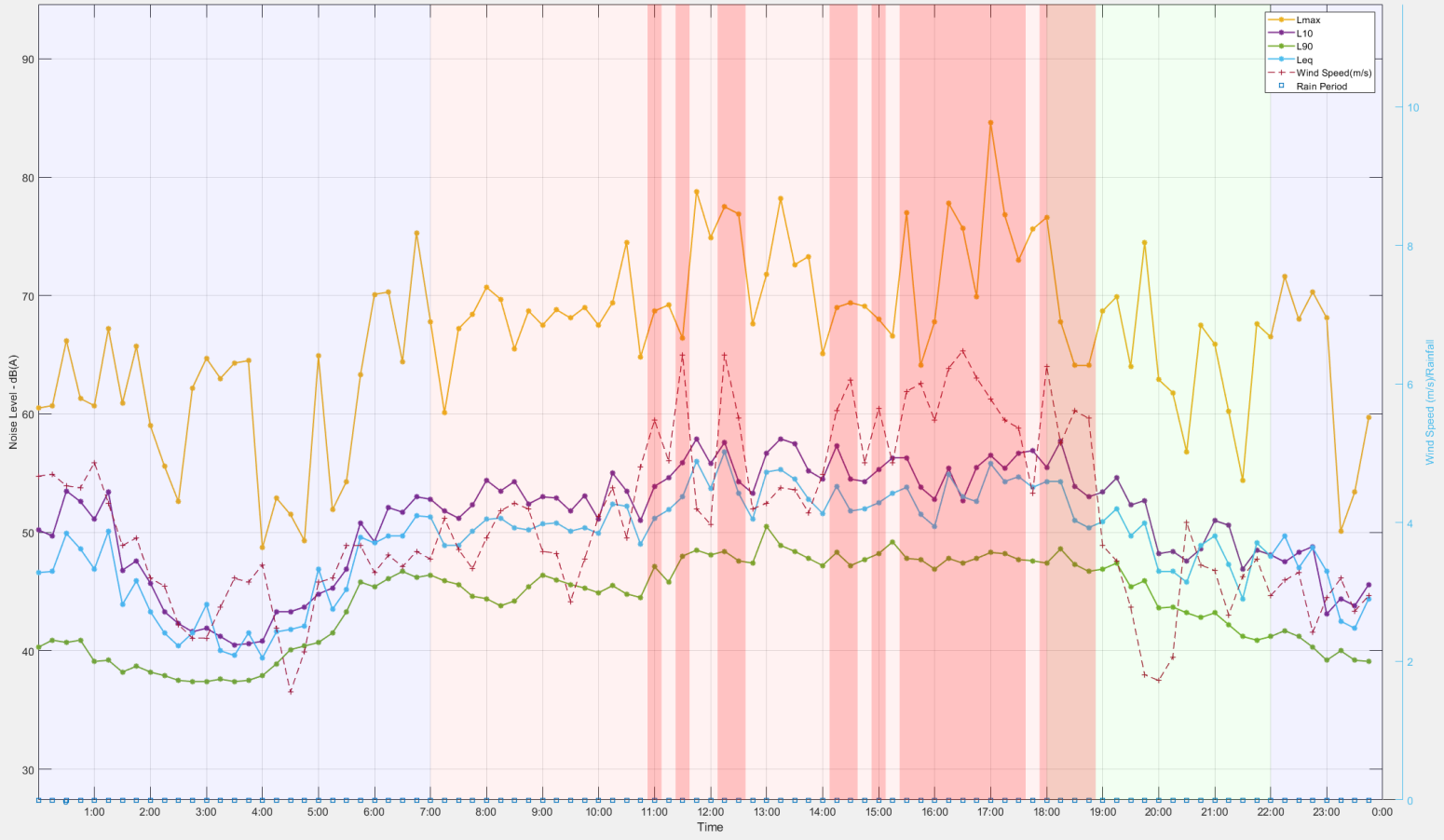
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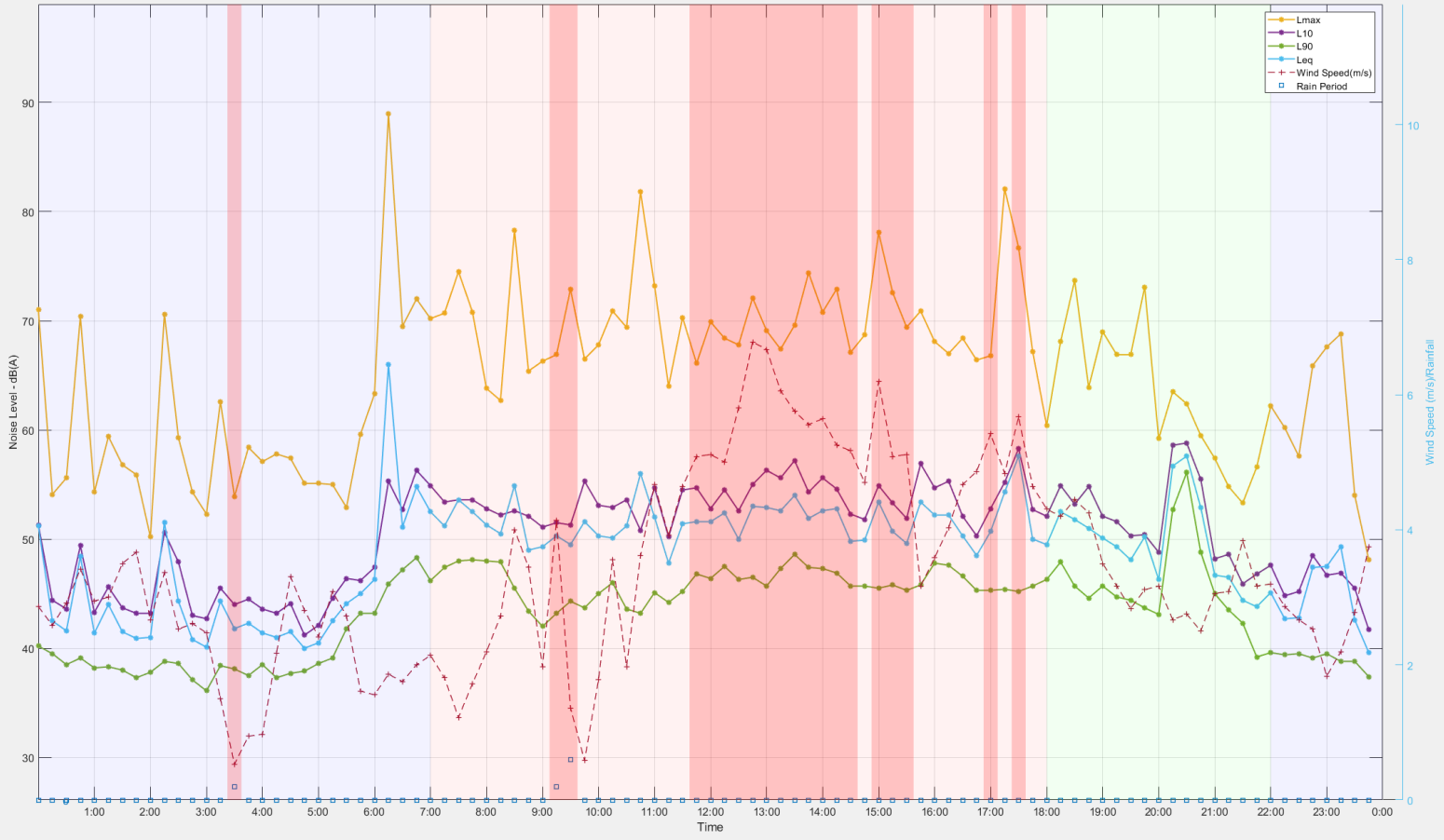
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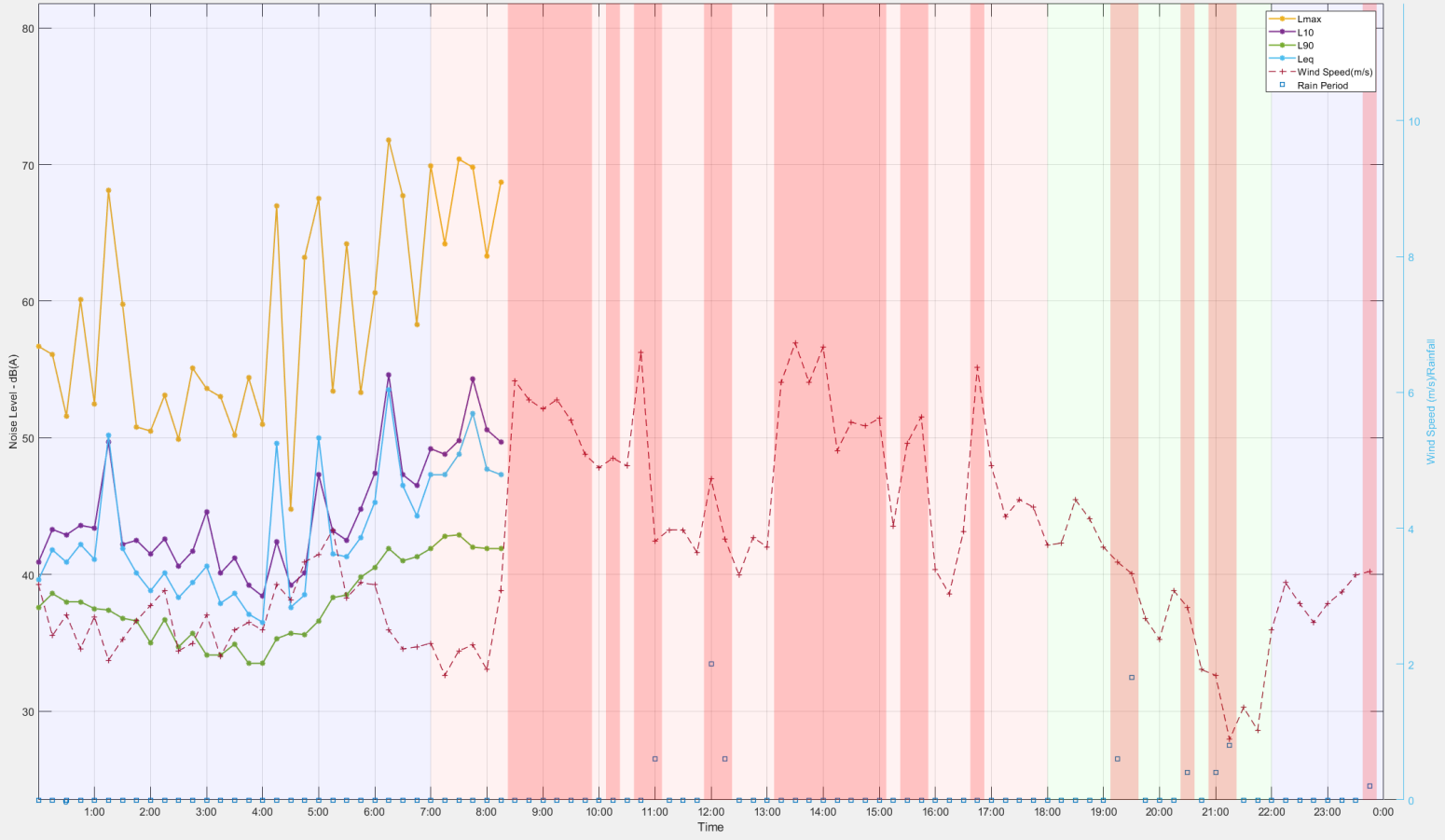
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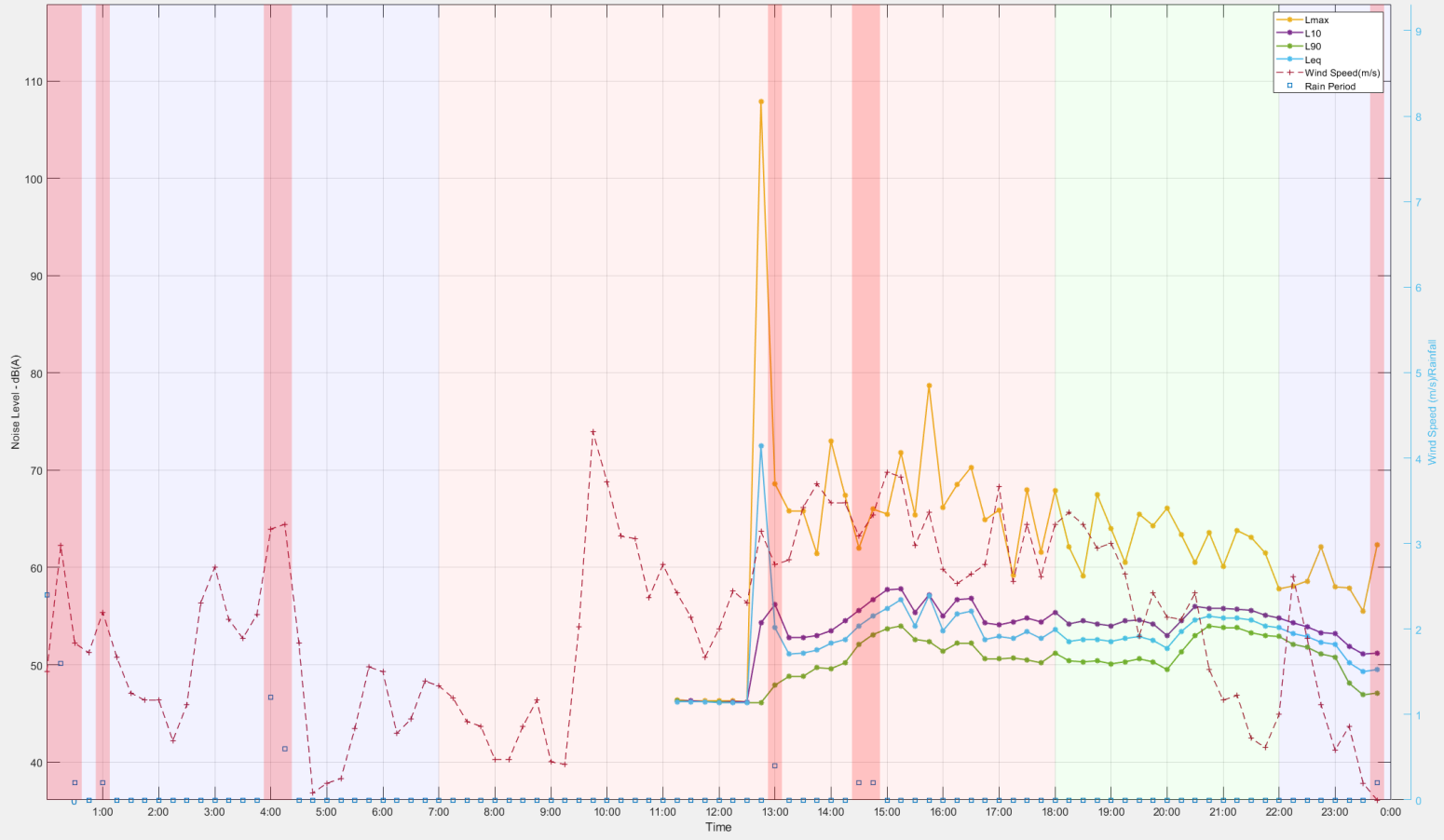
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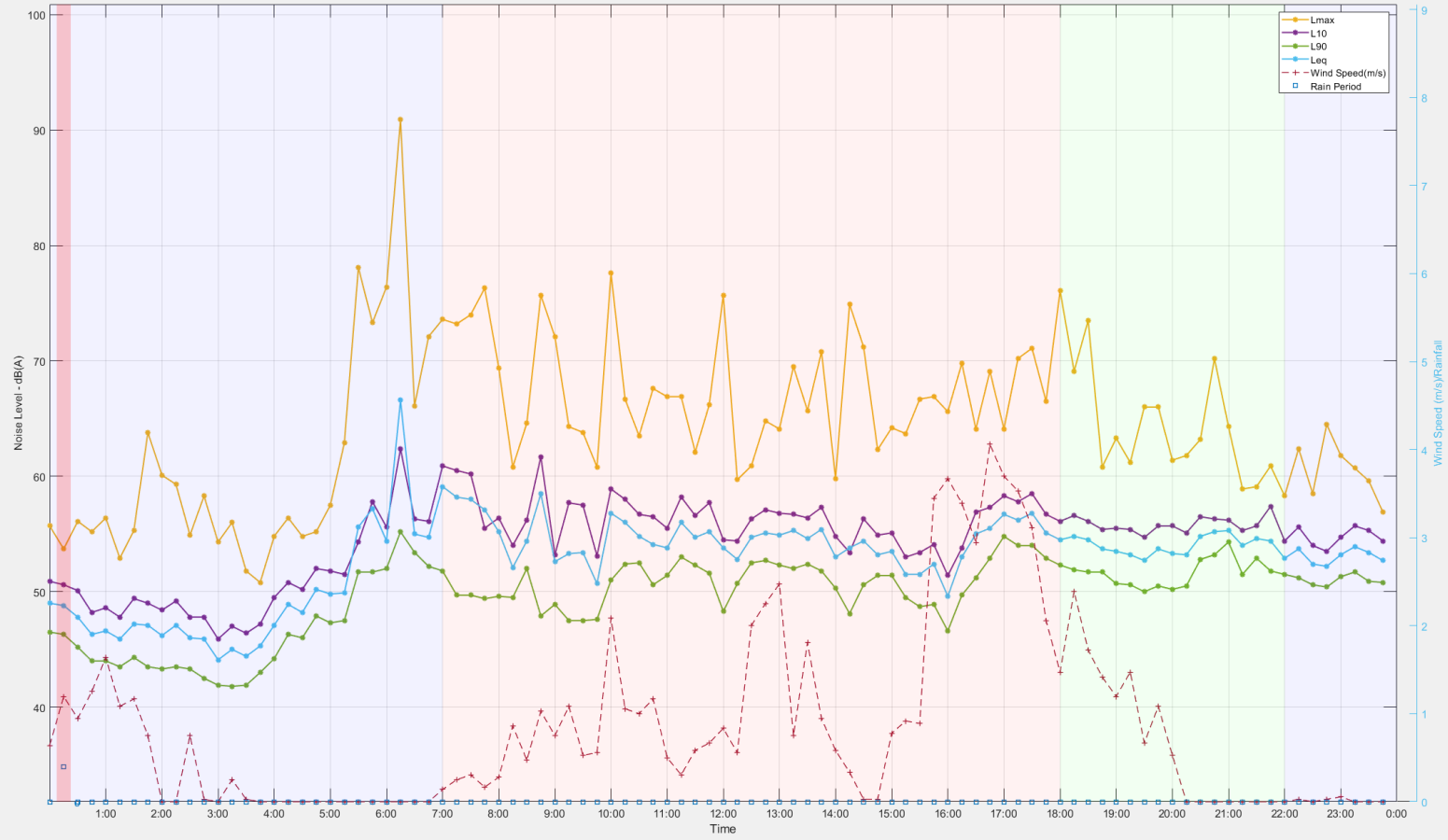
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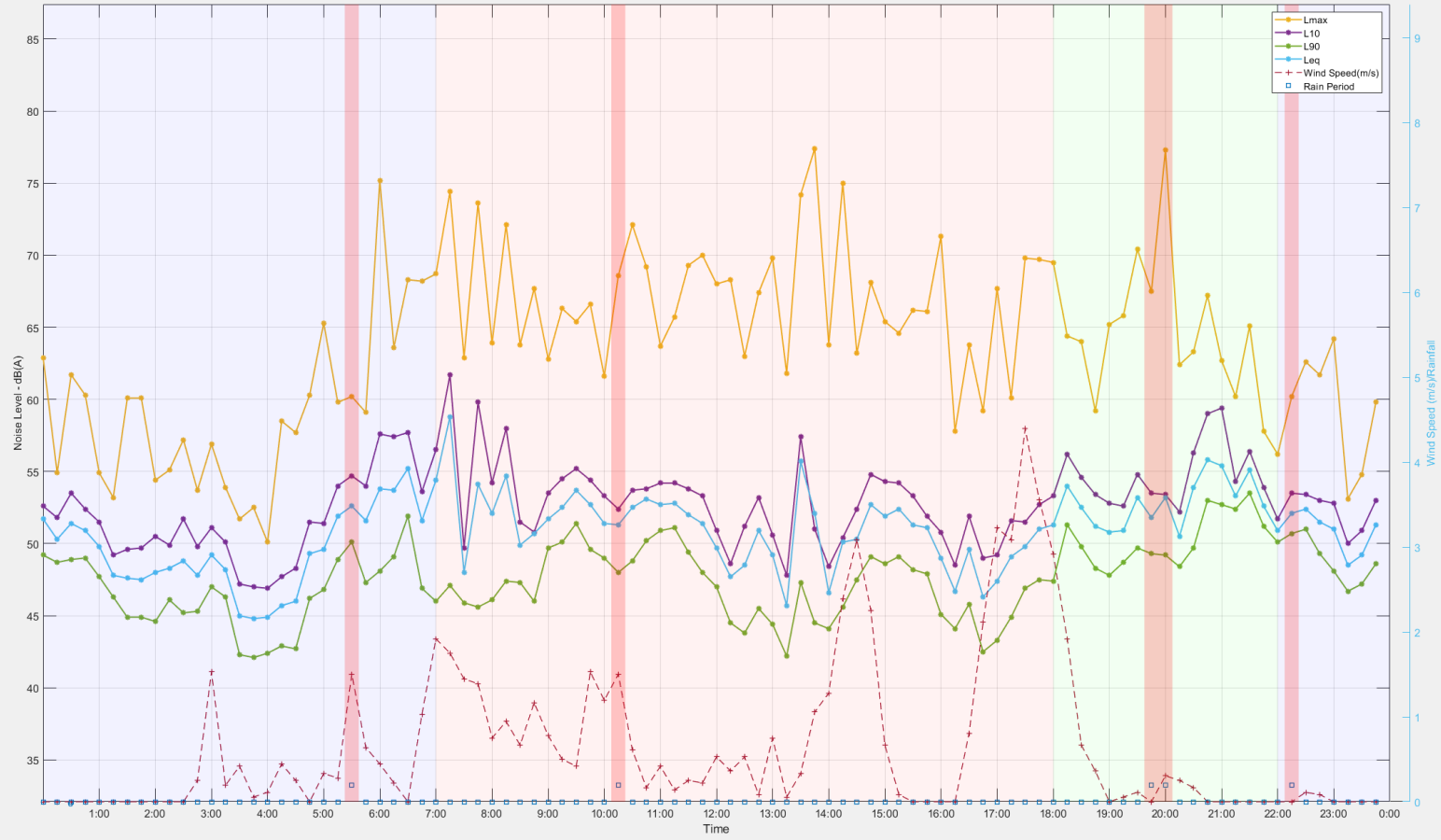
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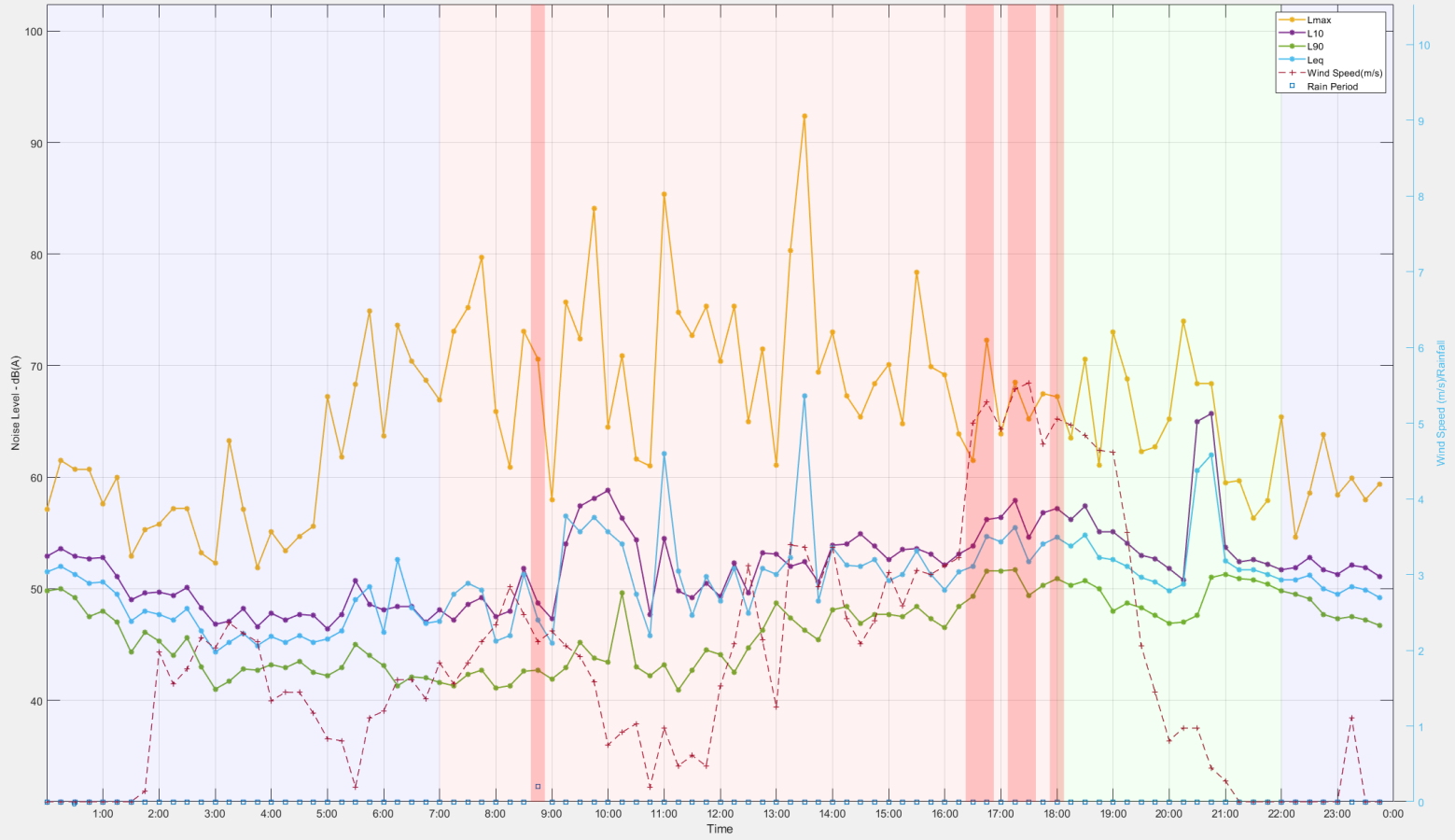
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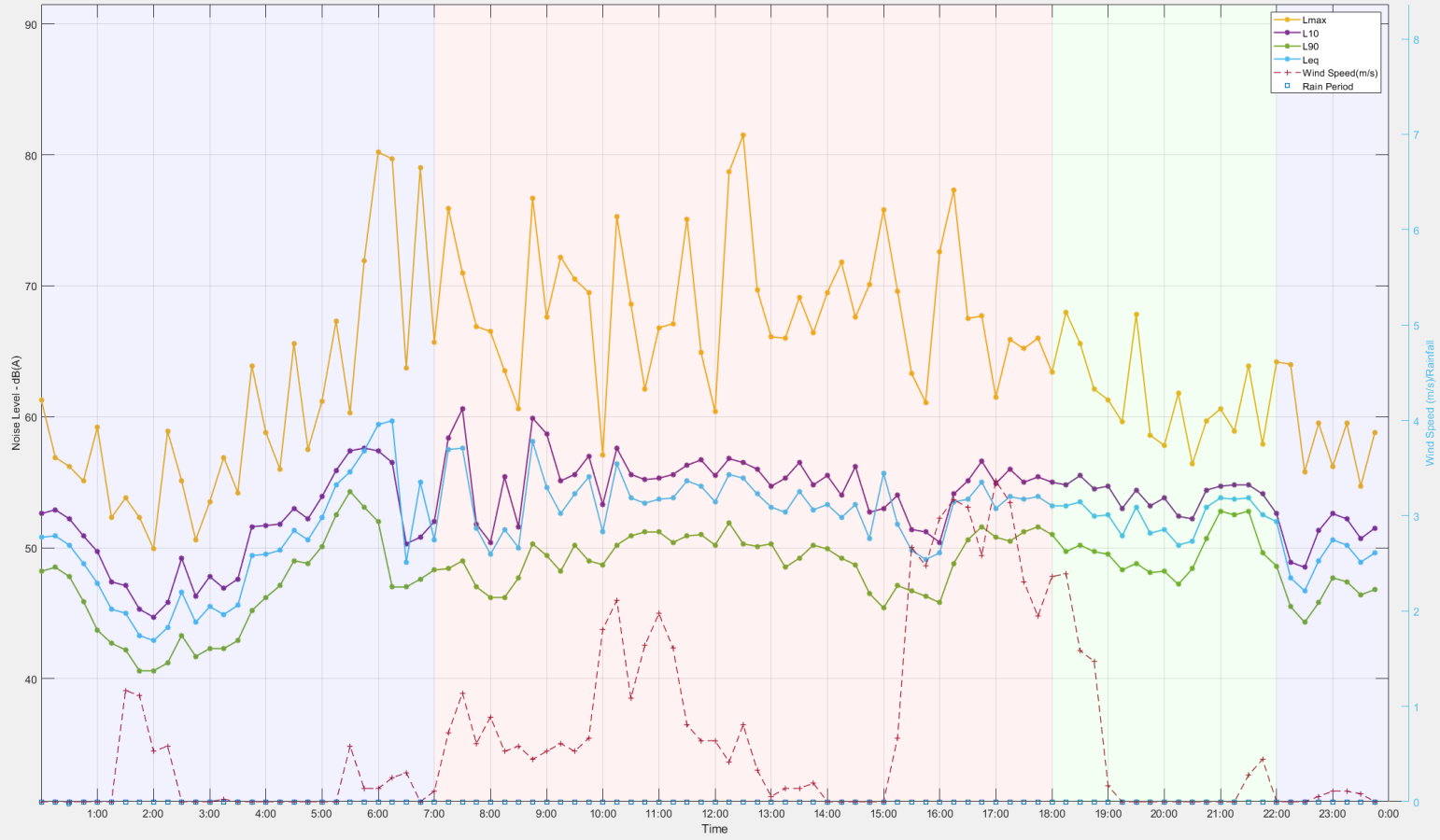
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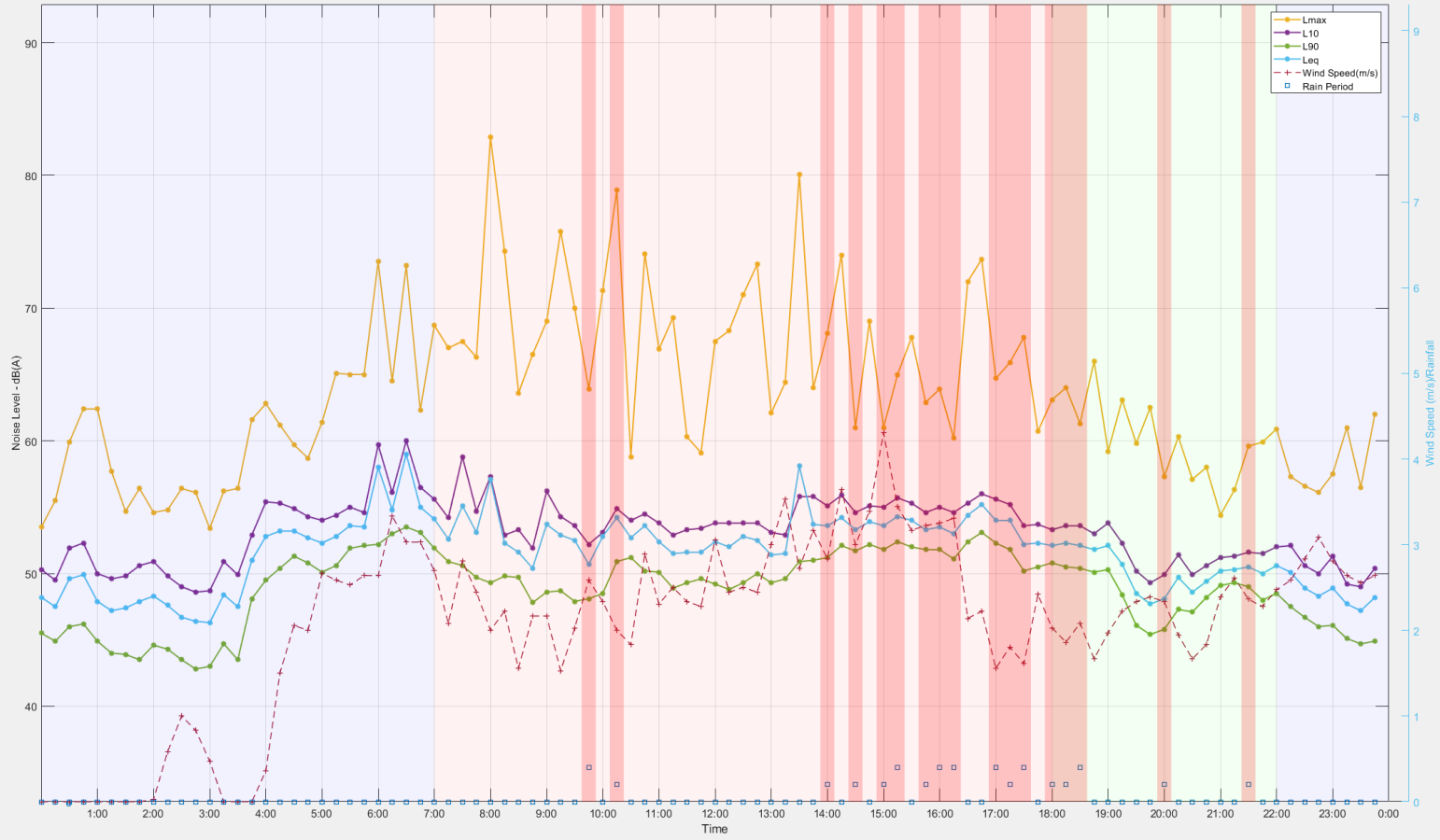
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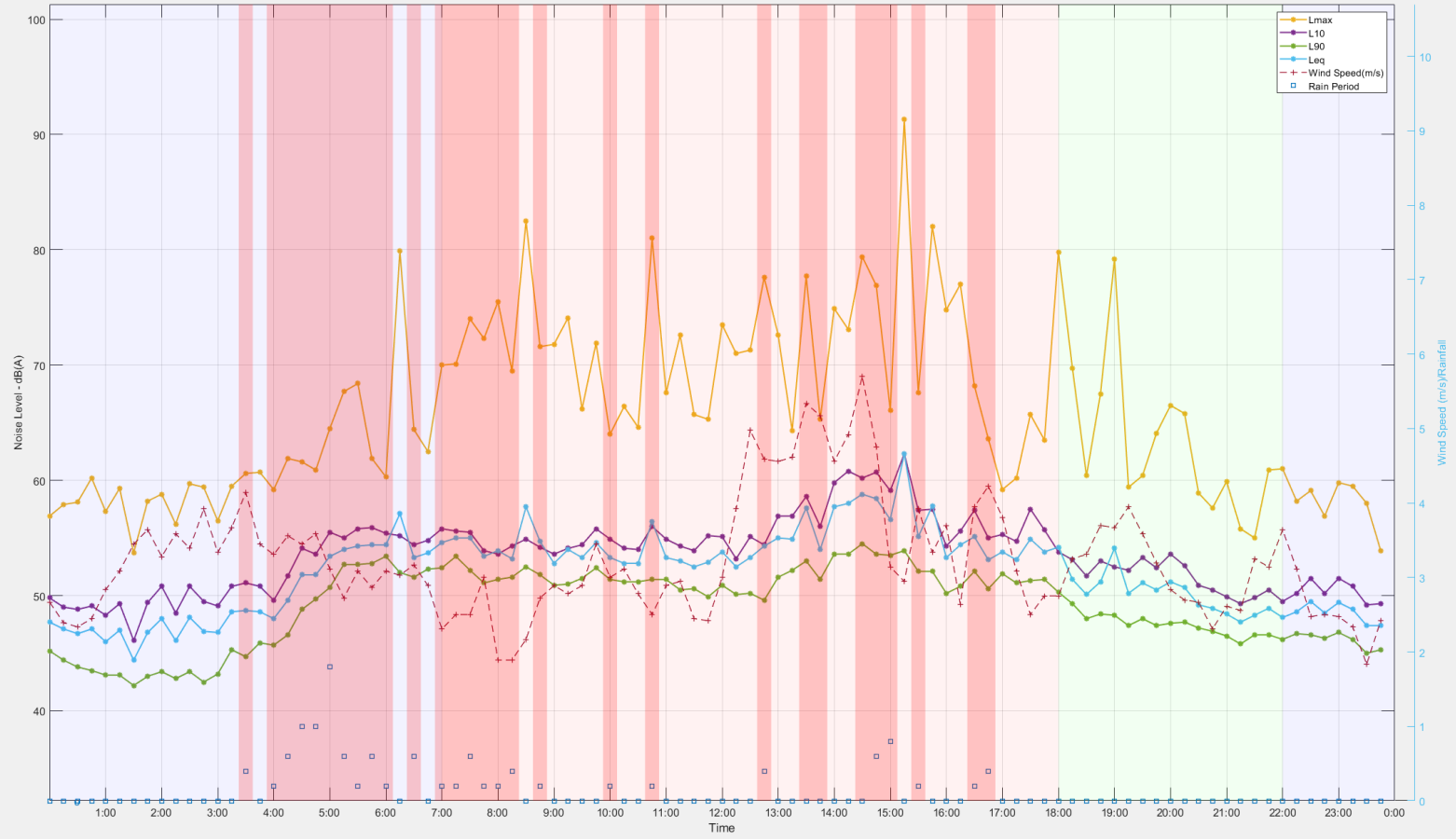
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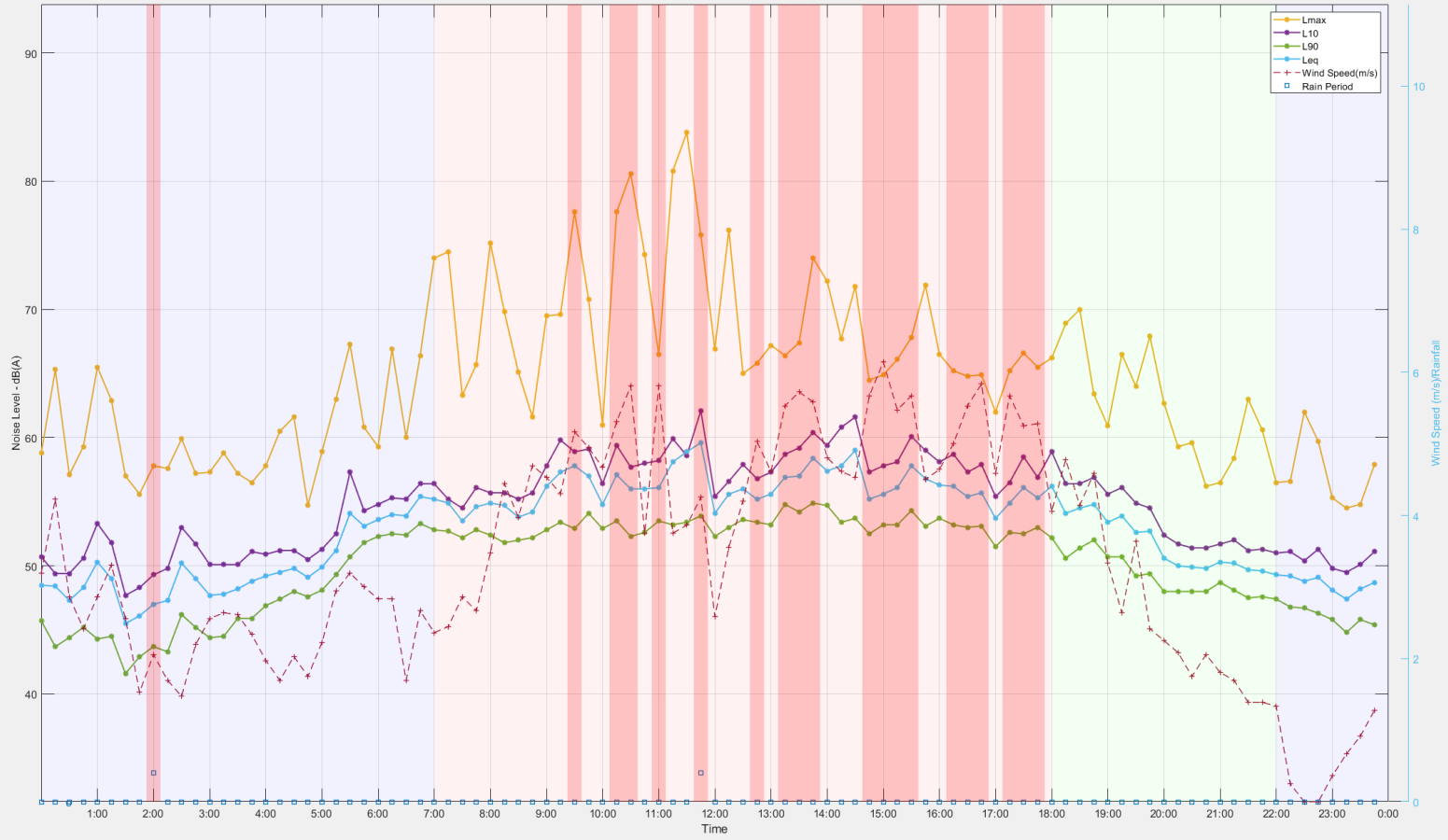
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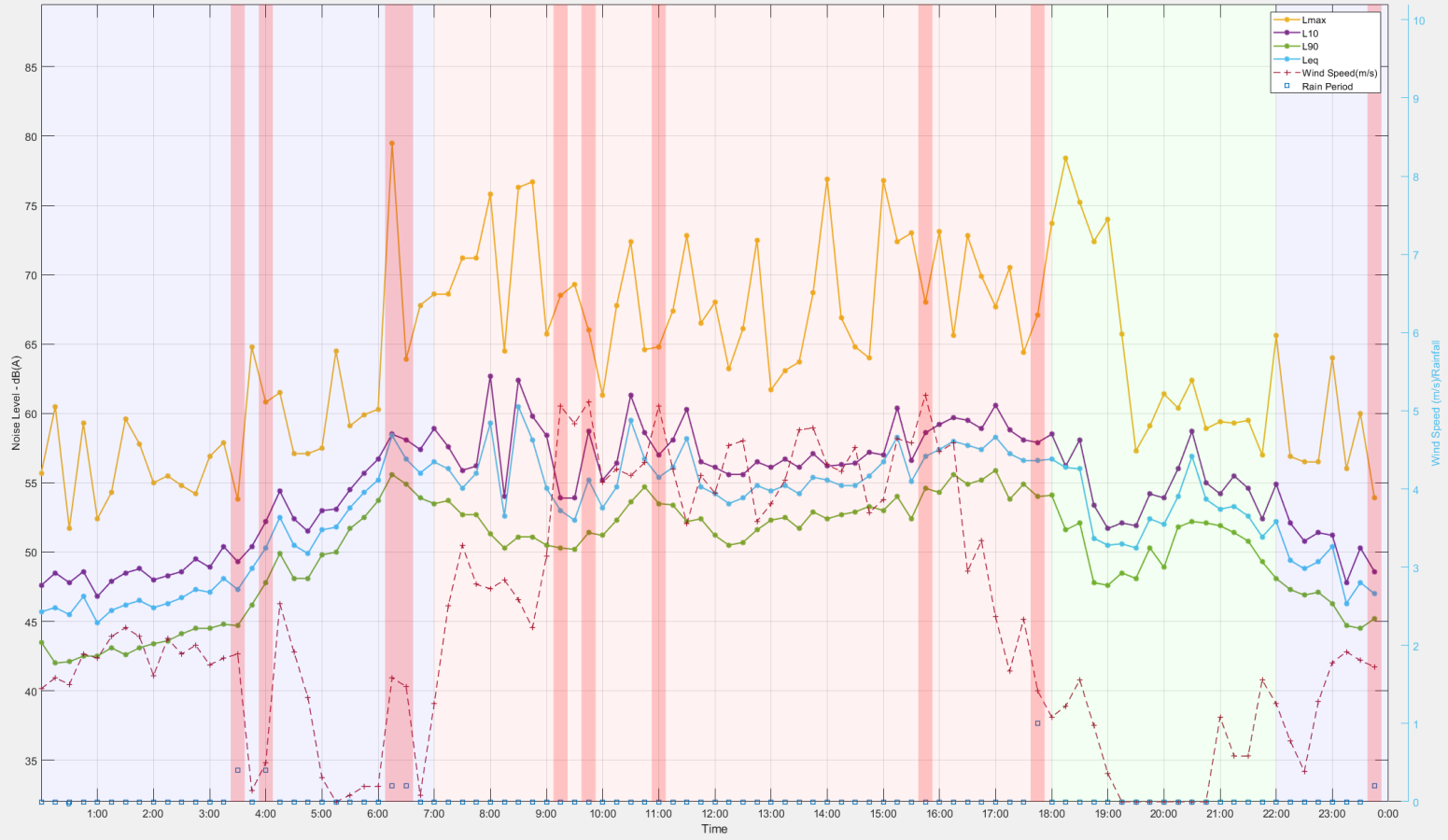
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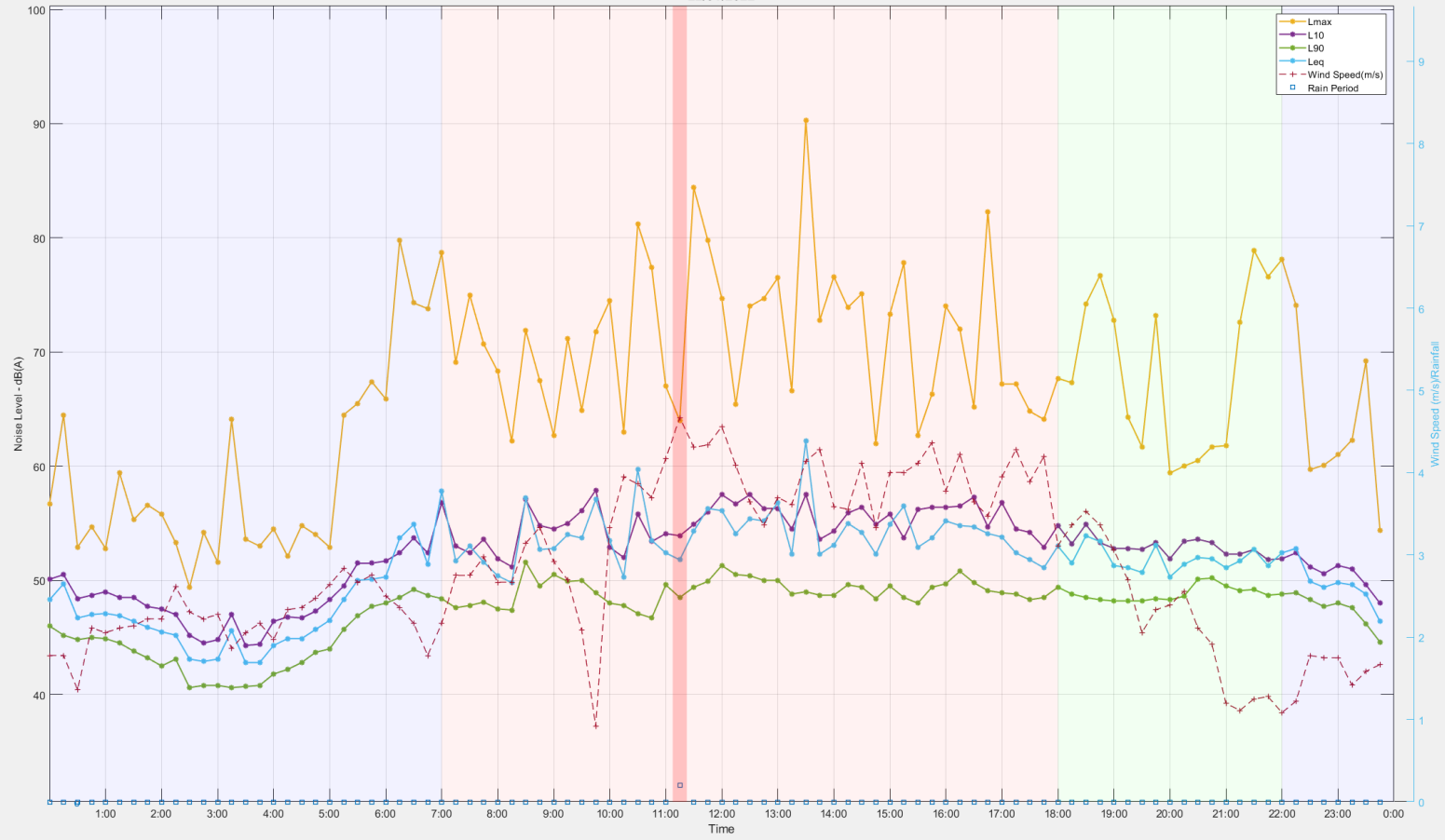
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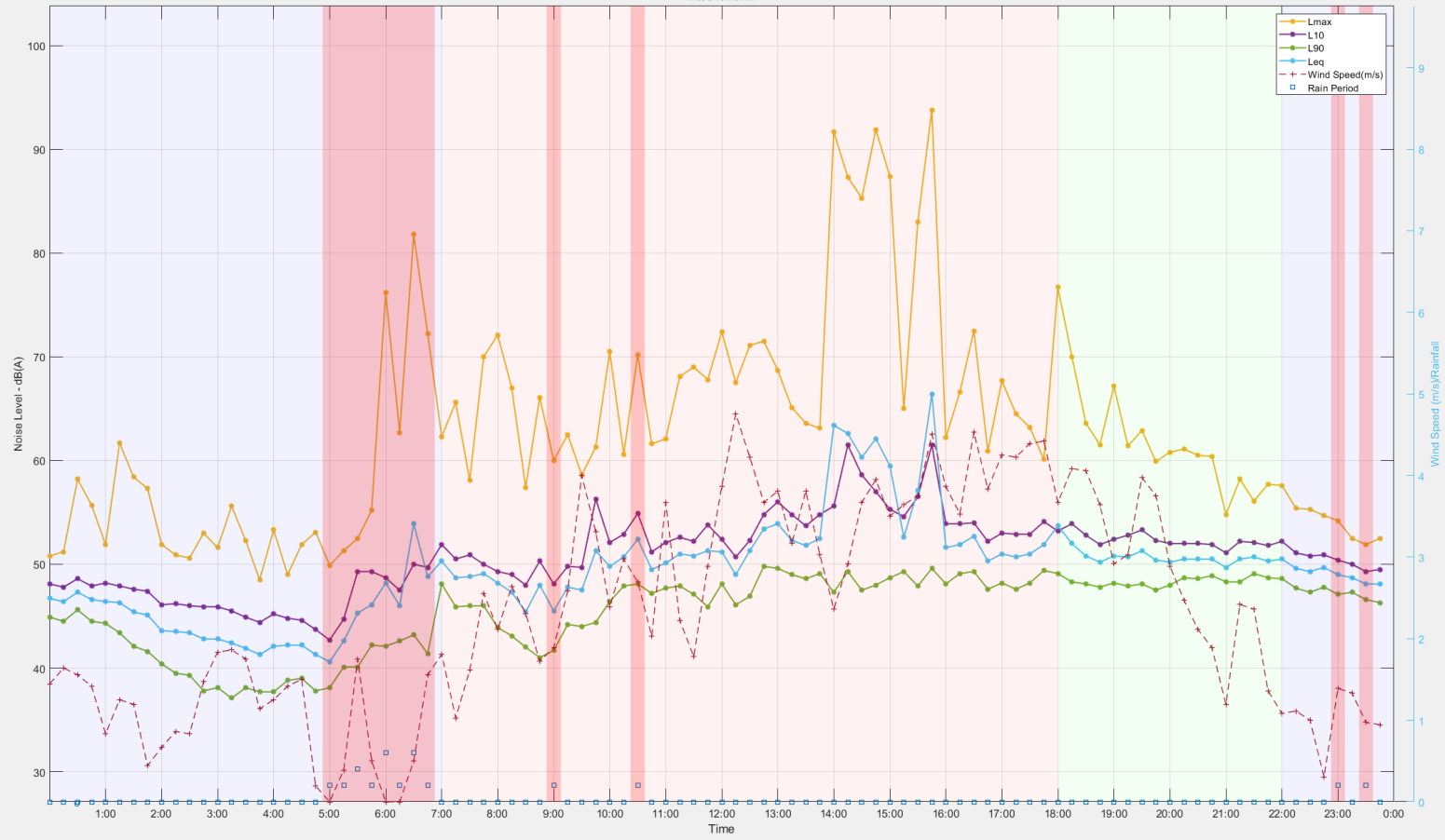
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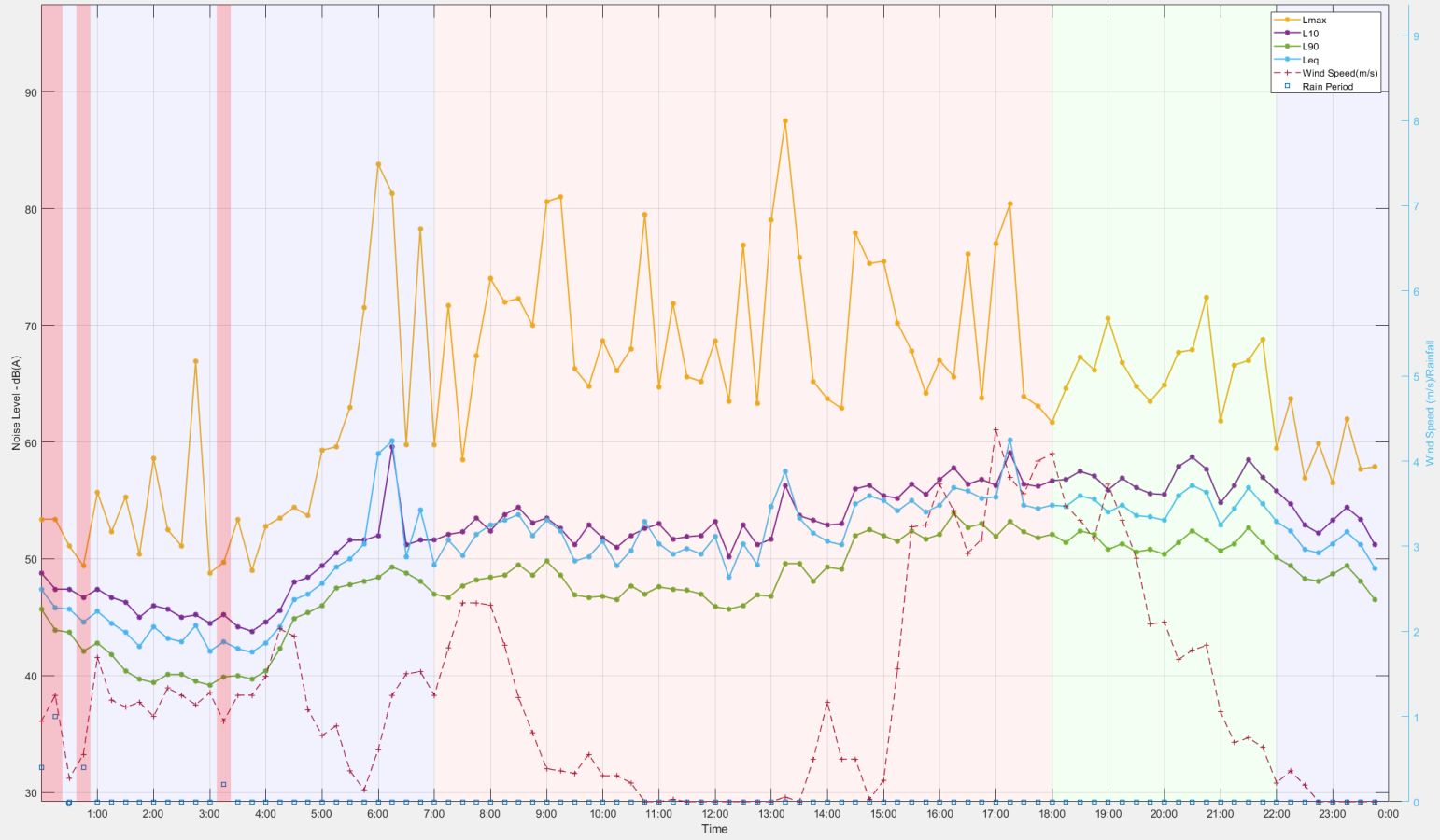
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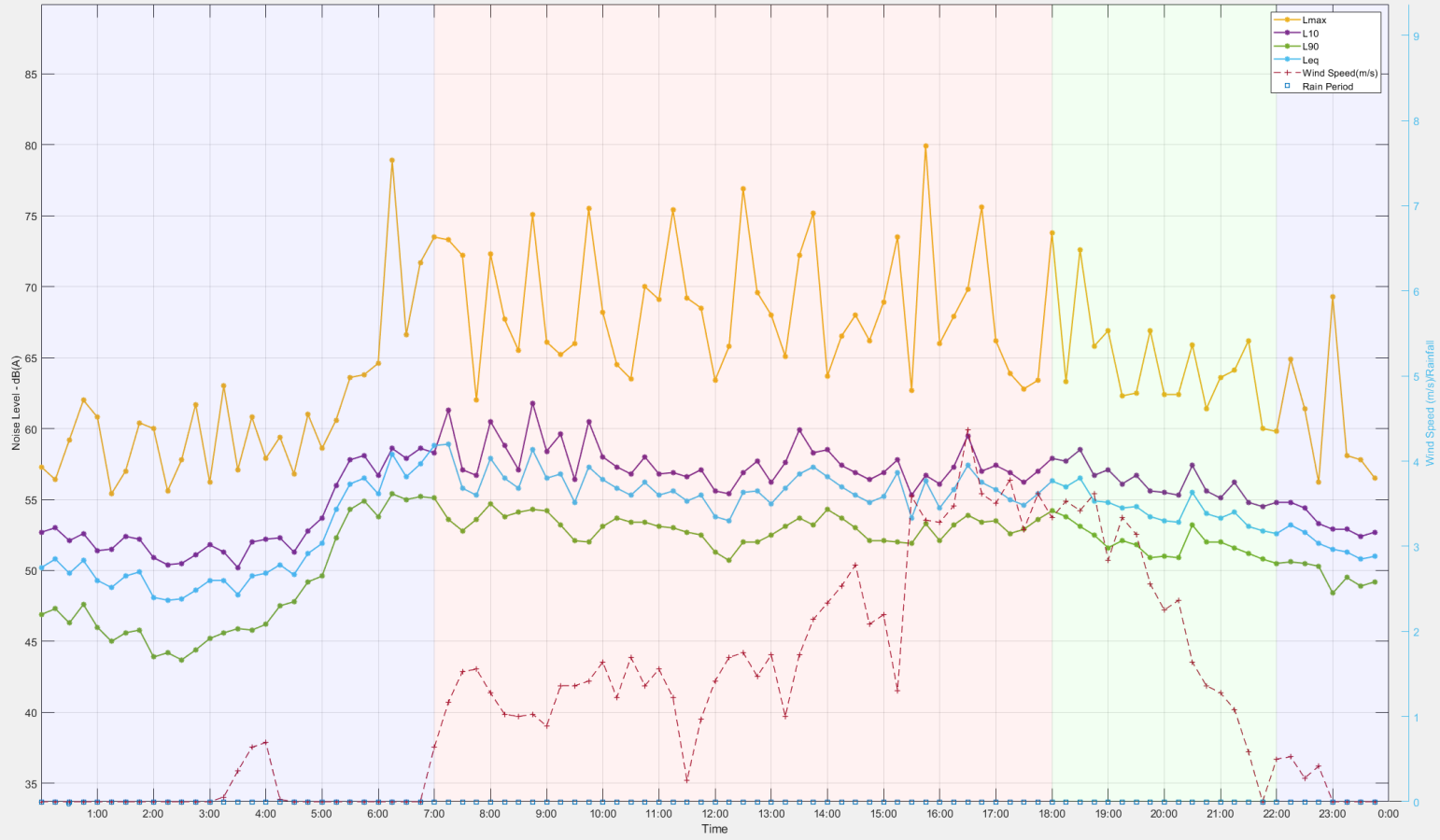
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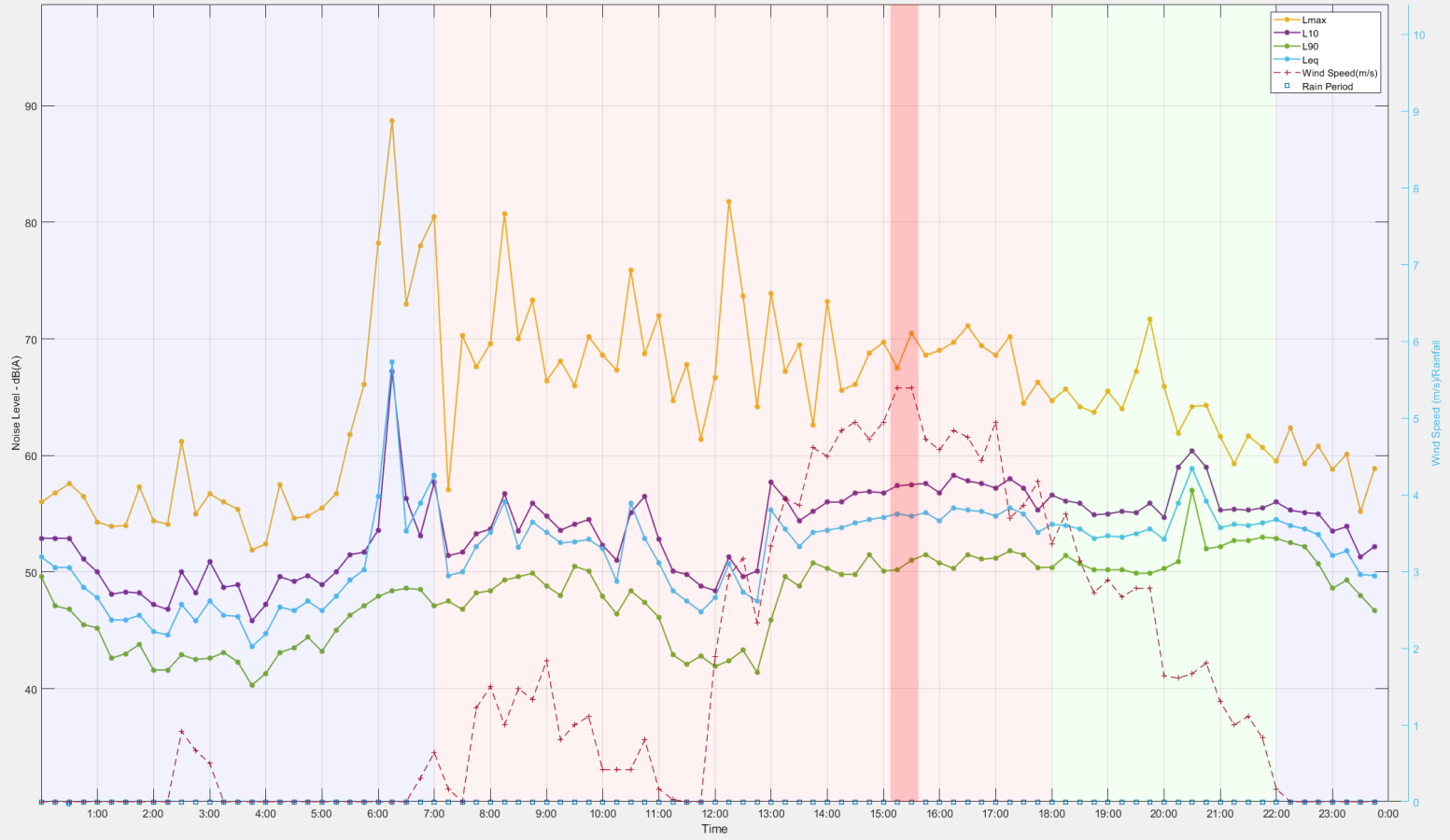
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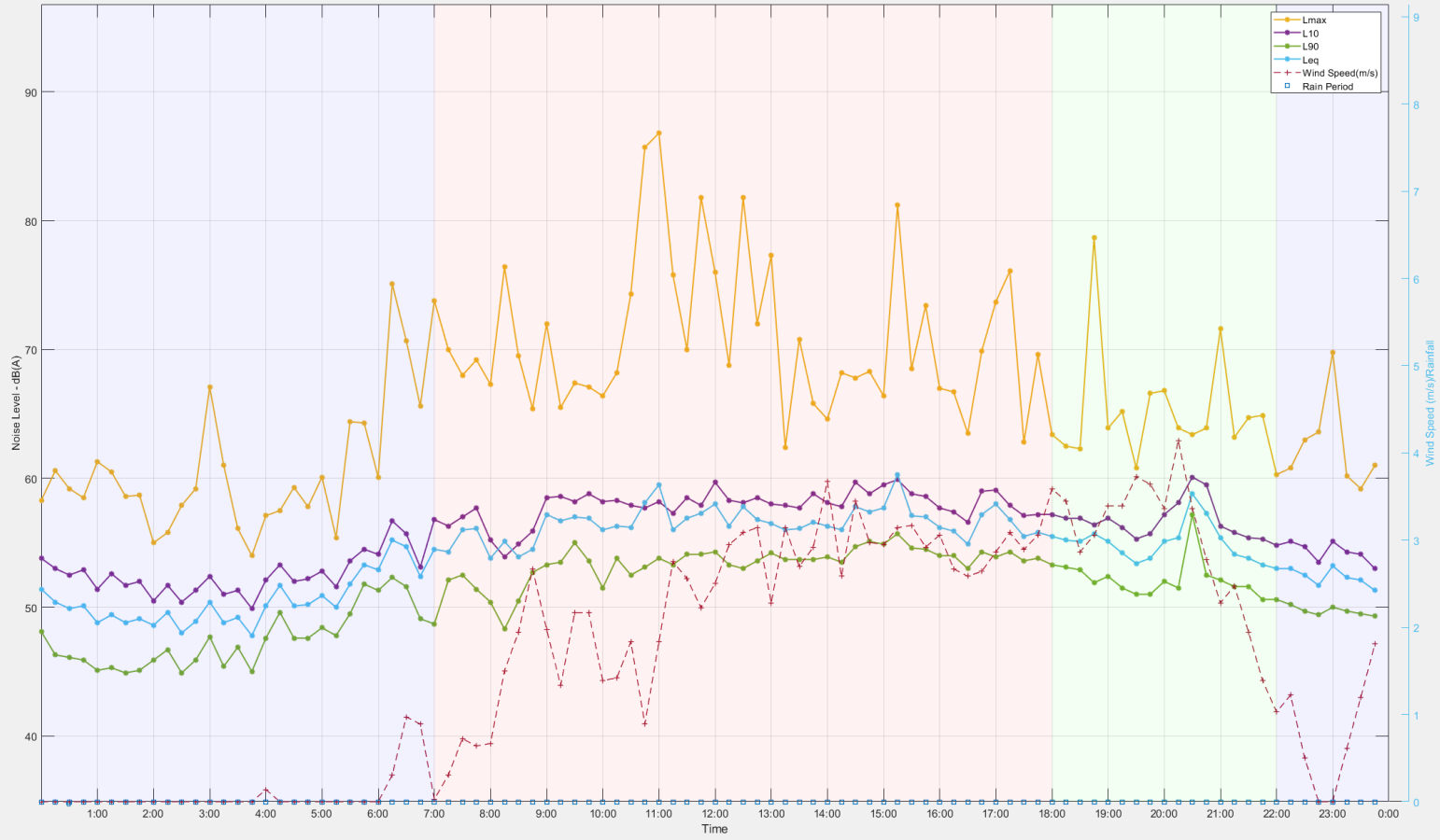
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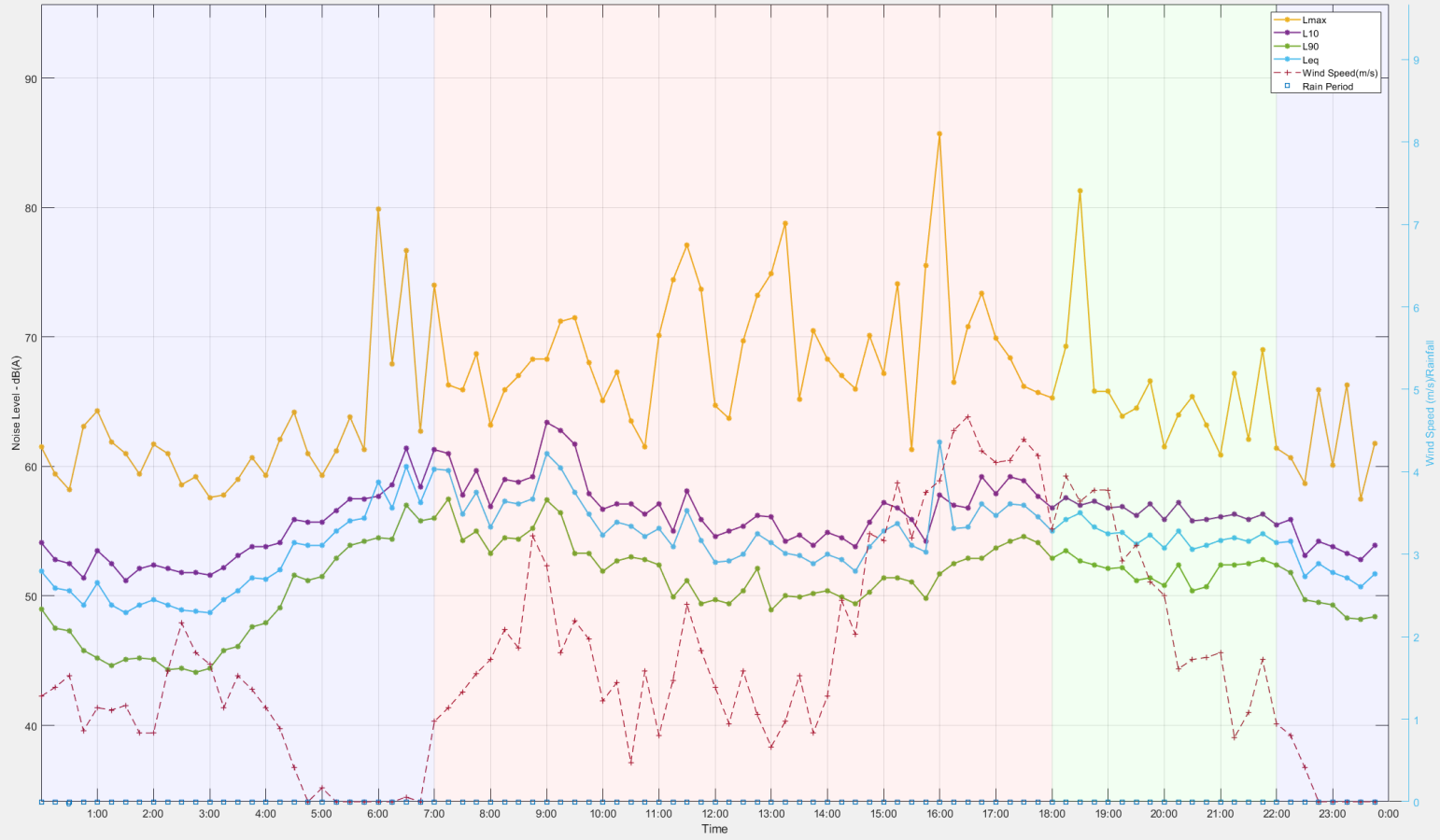
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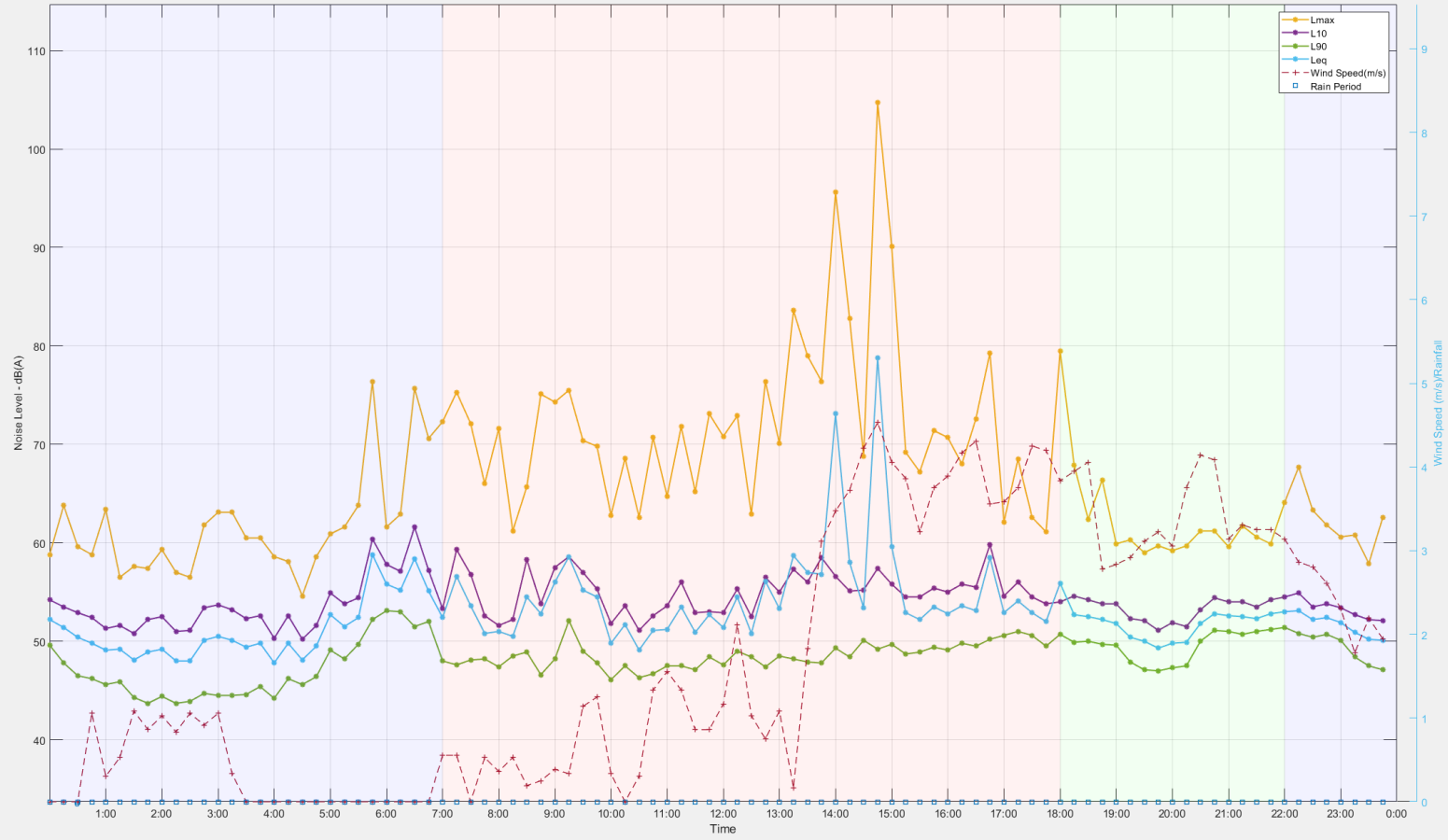
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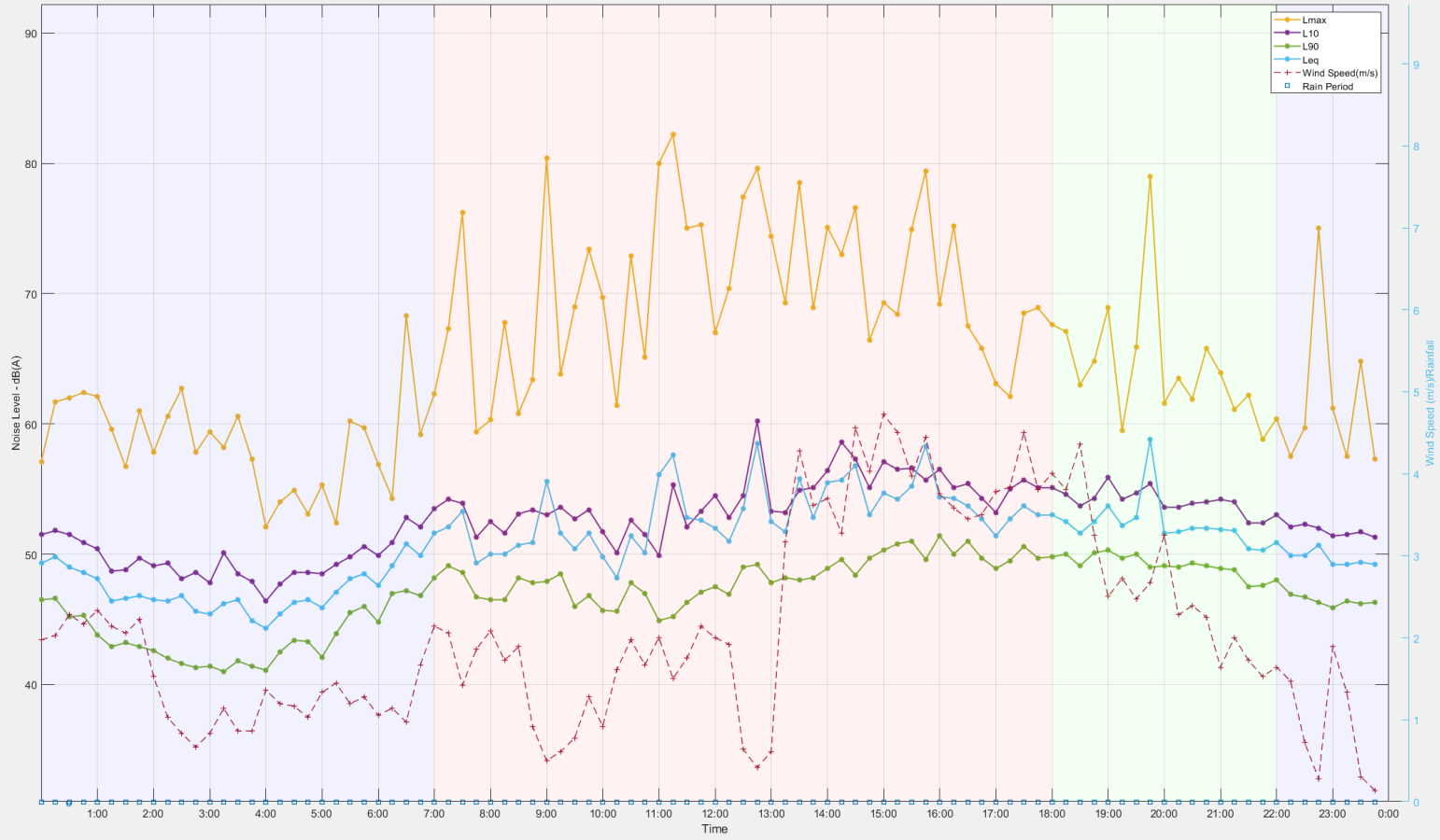
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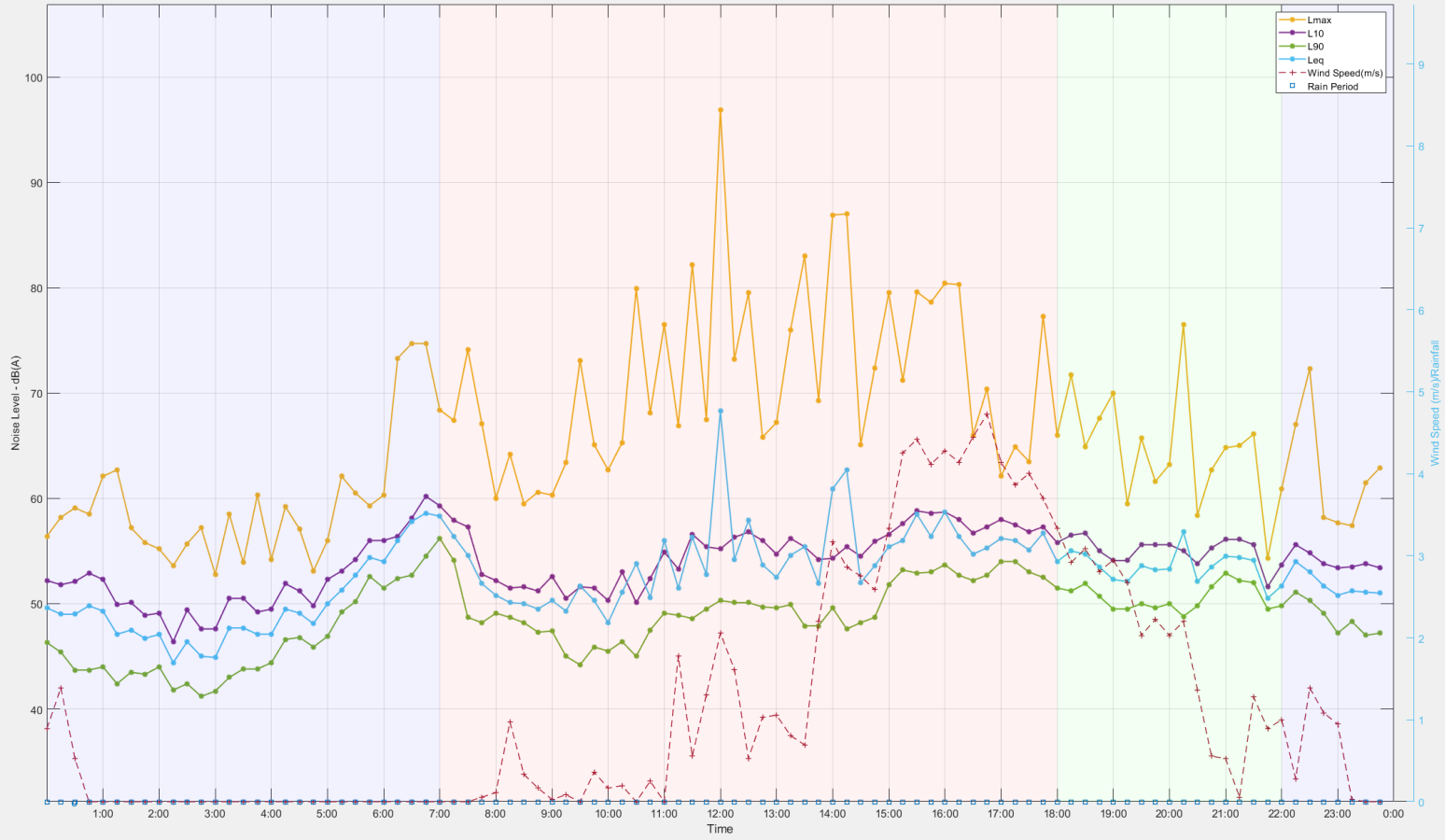
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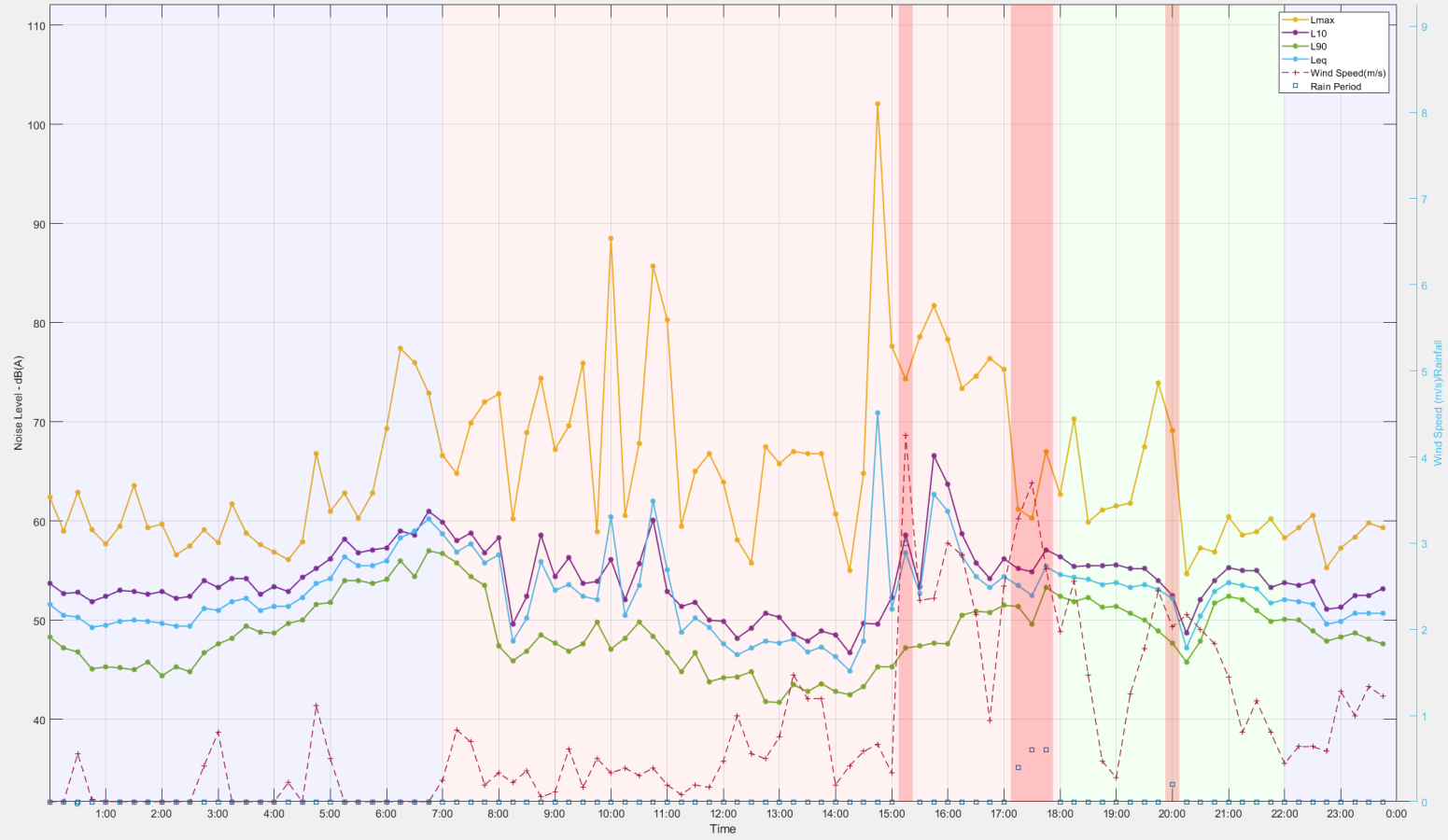
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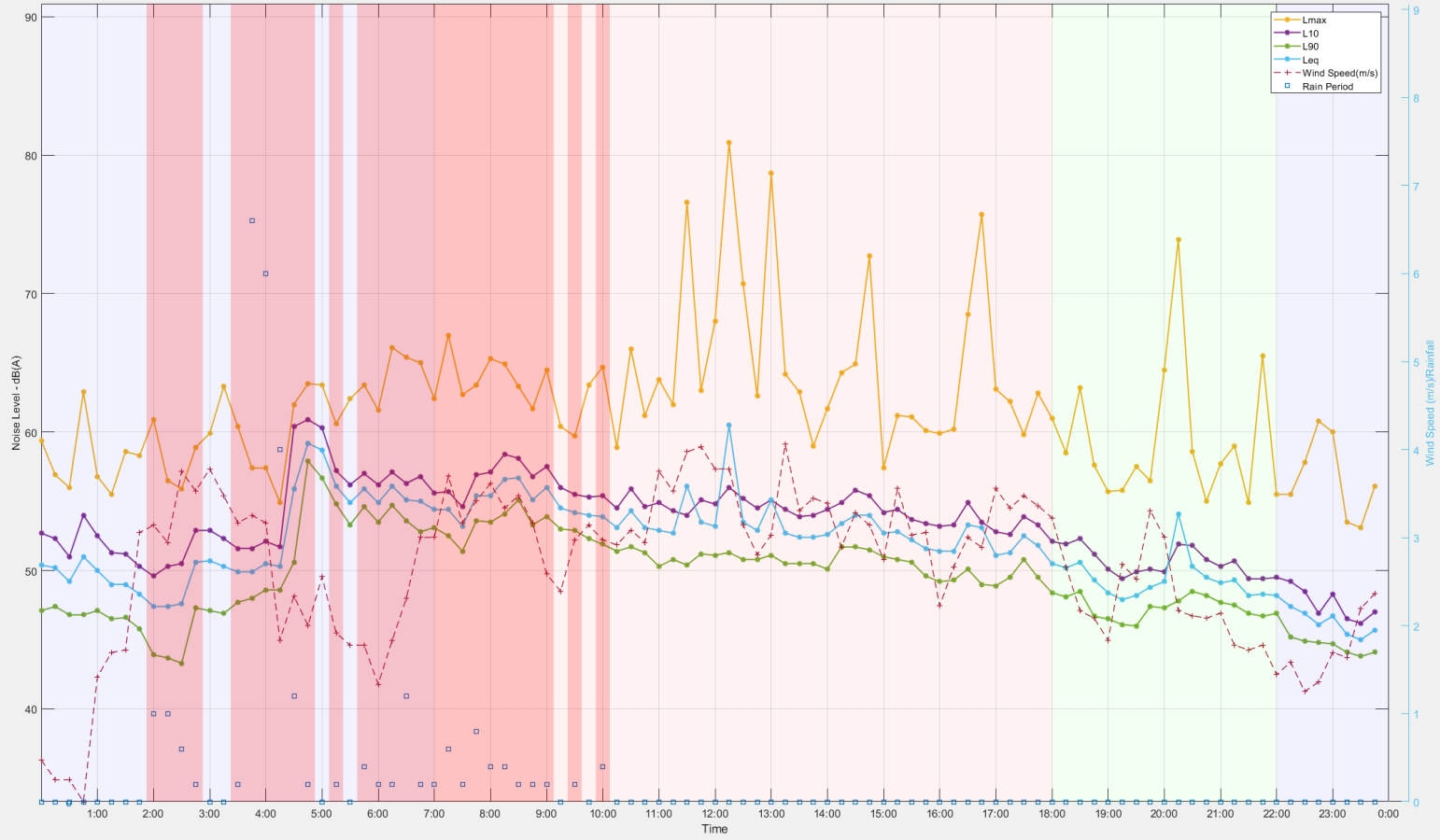
East Burley Road, Horsley Park
31/01/2022



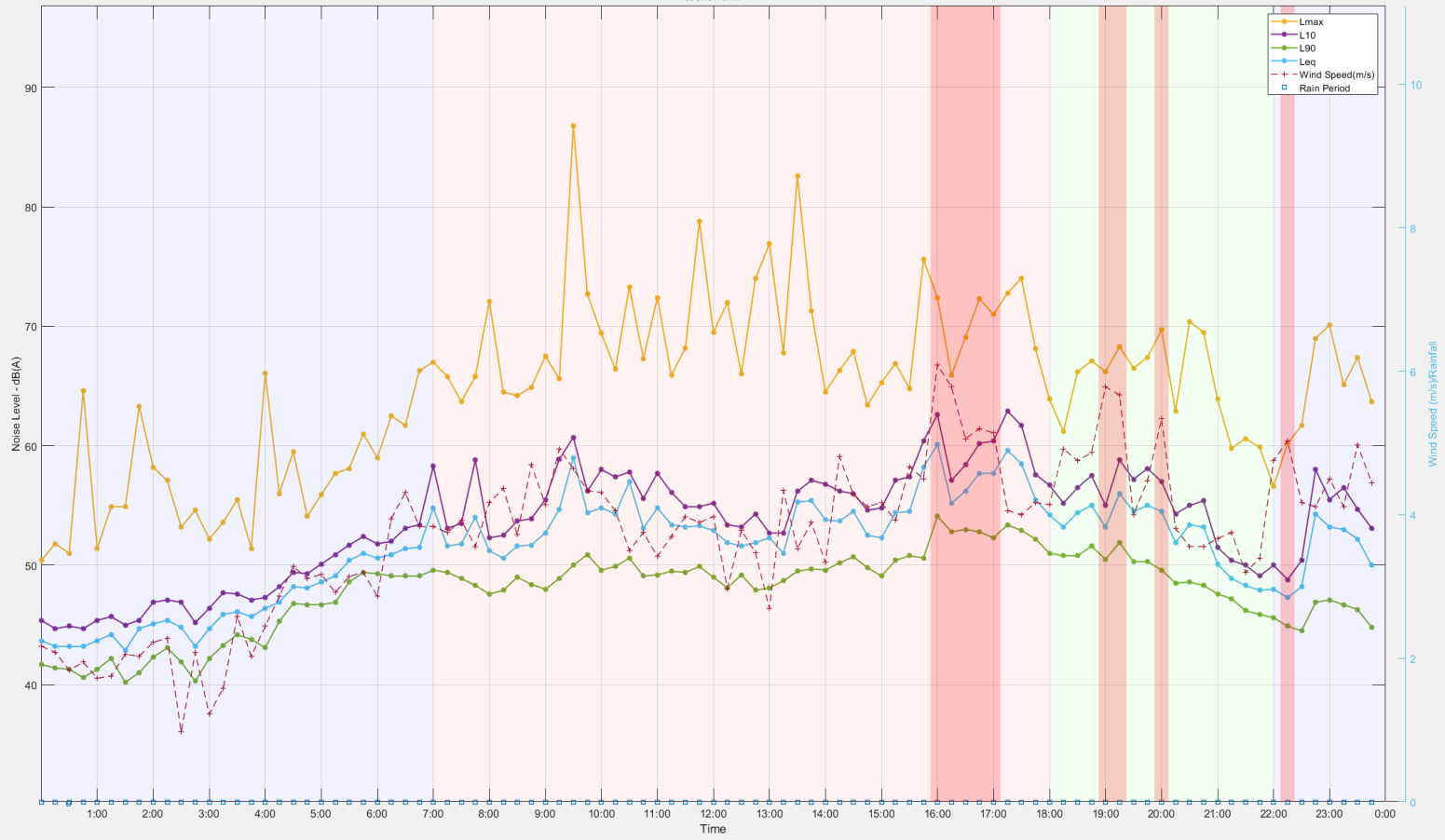
East Burley Road, Horsley Park
1/02/2022



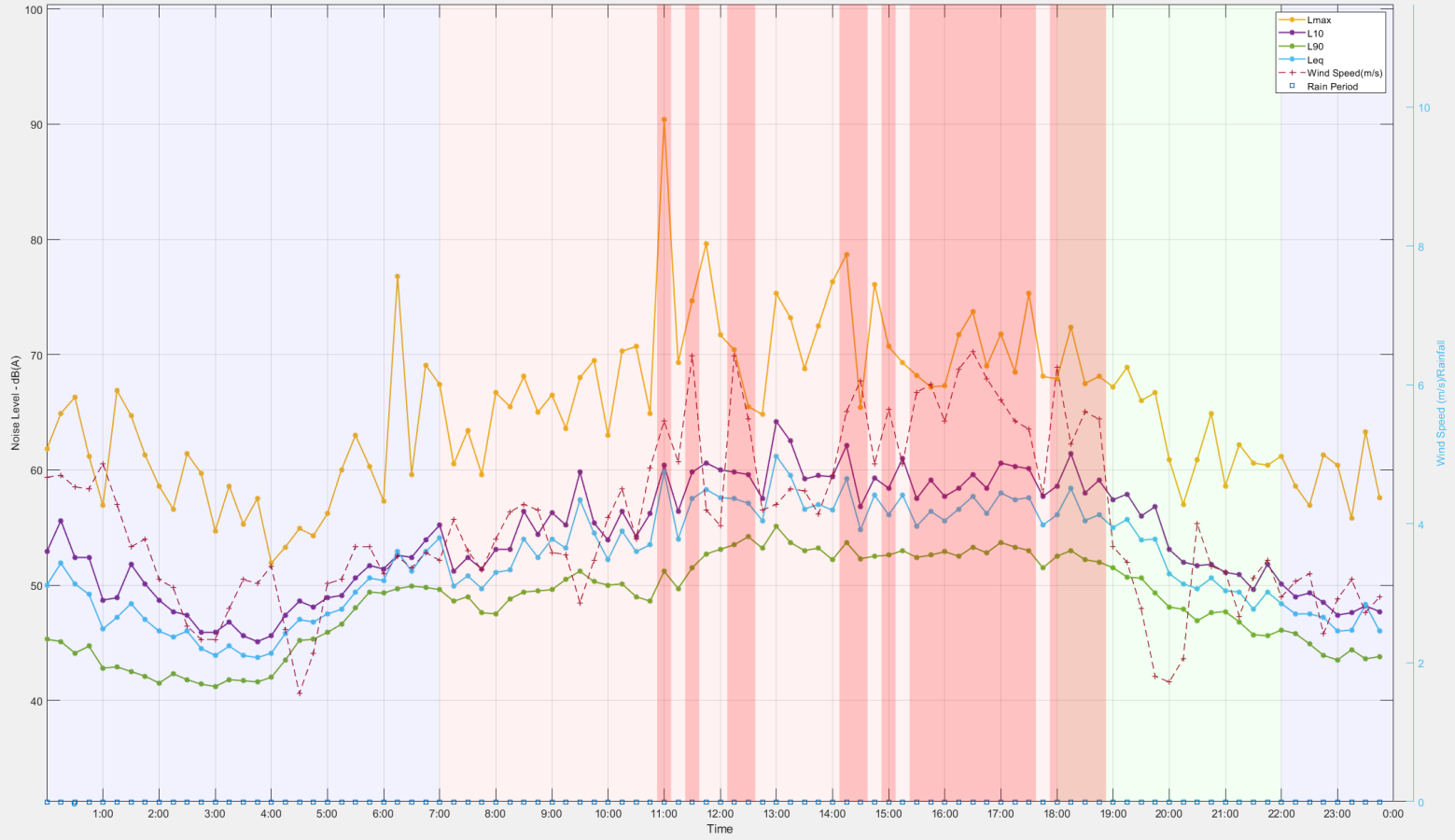
East Burley Road, Horsley Park
2/02/2022



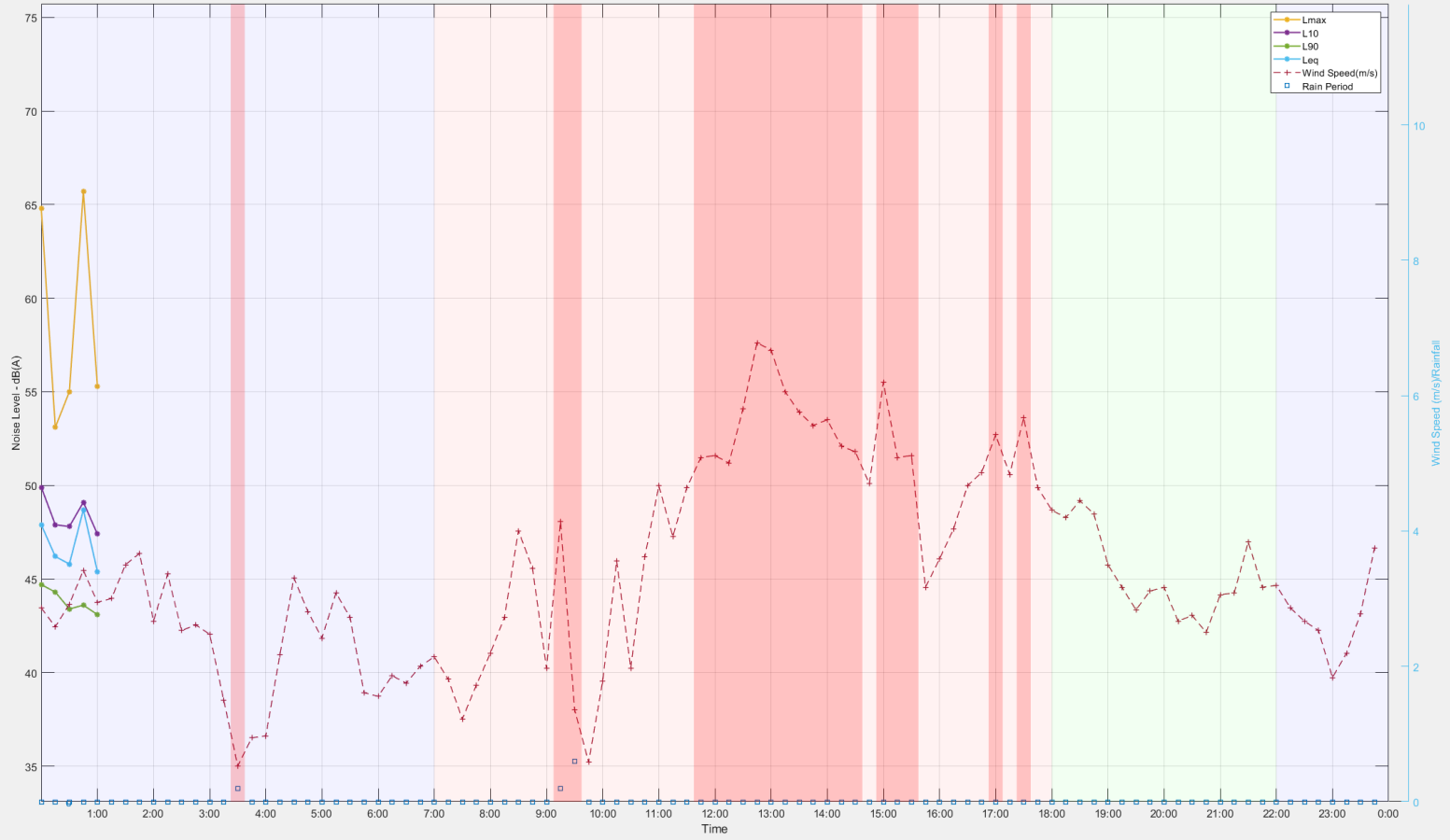
East Burley Road, Horsley Park
3/02/2022



East Burley Road, Horsley Park
4/02/2022



East Burley Road, Horsley Park
5/02/2022



APPENDIX B – NOISE MONITOR CALIBRATION CERTIFICATES



**Sound Level Meter
IEC 61672-3:2013**

Calibration Certificate

Calibration Number C21262

Client Details Acoustic Logic Consultancy Pty Ltd
9 Sarah Street
Mascot NSW 2020

Equipment Tested/ Model Number : Rion NL-42EX
Instrument Serial Number : 00208973
Microphone Serial Number : 190895
Pre-amplifier Serial Number : 03012

Pre-Test Atmospheric Conditions
Ambient Temperature : 22.6°C
Relative Humidity : 40.4%
Barometric Pressure : 100.7kPa

Post-Test Atmospheric Conditions
Ambient Temperature : 23°C
Relative Humidity : 40.9%
Barometric Pressure : 100.7kPa

Calibration Technician : Lucky Jaiswal
Calibration Date : 23 Apr 2021

Secondary Check: Max Moore
Report Issue Date : 23 Apr 2021

Approved Signatory :

Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
12: Acoustical Sig. tests of a frequency weighting	Pass	17: Level linearity incl. the level range control	Pass
13: Electrical Sig. tests of frequency weightings	Pass	18: Toneburst response	Pass
14: Frequency and time weightings at 1 kHz	Pass	19: C Weighted Peak Sound Level	Pass
15: Long Term Stability	Pass	20: Overload Indication	Pass
16: Level linearity on the reference level range	Pass	21: High Level Stability	Pass

The sound level meter submitted for testing has successfully completed the class 2 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full requirements of IEC 61672-1:2013 because evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013 and because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Least Uncertainties of Measurement -			
Acoustic Tests		Environmental Conditions	
125Hz	±0.12dB	Temperature	±0.2°C
1kHz	±0.11dB	Relative Humidity	±2.4%
8kHz	±0.13dB	Barometric Pressure	±0.015kPa
Electrical Tests	±0.10dB		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.



This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172. Accredited for compliance with ISO/IEC 17025 - calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to SI units.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.



**Sound Level Meter
IEC 61672-3.2013
Calibration Certificate**
Calibration Number C21015

Client Details Acoustic Logic Consultancy Pty Ltd
9 Sarah Street
Mascot NSW 2020

Equipment Tested/ Model Number : Rion NL-42EX
Instrument Serial Number : 00609565
Microphone Serial Number : 187129
Pre-amplifier Serial Number : 01191

Pre-Test Atmospheric Conditions	Post-Test Atmospheric Conditions
Ambient Temperature : 23.5°C	Ambient Temperature : 23.6°C
Relative Humidity : 45.2%	Relative Humidity : 45.2%
Barometric Pressure : 100.46kPa	Barometric Pressure : 100.43kPa

Calibration Technician : Jeff Yu
Calibration Date : 13 Jan 2021
Secondary Check: Max Moore
Report Issue Date : 14 Jan 2021

Approved Signatory :  Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
12: Acoustical Sig. tests of a frequency weighting	Pass	17: Level linearity incl. the level range control	Pass
13: Electrical Sig. tests of frequency weightings	Pass	18: Toneburst response	Pass
14: Frequency and time weightings at 1 kHz	Pass	19: C Weighted Peak Sound Level	Pass
15: Long Term Stability	Pass	20: Overload Indication	Pass
16: Level linearity on the reference level range	Pass	21: High Level Stability	Pass

The sound level meter submitted for testing has successfully completed the class 2 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full requirements of IEC 61672-1:2013 because evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013 and because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Least Uncertainties of Measurement -			
Acoustic Tests		Environmental Conditions	
125Hz	±0.12dB	Temperature	±0.2°C
1kHz	±0.11dB	Relative Humidity	±2.4%
8kHz	±0.13dB	Barometric Pressure	±0.015kPa
Electrical Tests	±0.10dB		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.



This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172.
Accredited for compliance with ISO/IEC 17025 - calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to SI units.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.



Sound Level Meter
IEC 61672-3:2013
Calibration Certificate
Calibration Number C21613

Client Details Acoustic Logic Consultancy Pty Ltd
9 Sarah Street
Mascot NSW 2020

Equipment Tested/ Model Number : Rion NL-42EX
Instrument Serial Number : 00810819
Microphone Serial Number : 188926
Pre-amplifier Serial Number : 01333

Pre-Test Atmospheric Conditions	Post-Test Atmospheric Conditions
Ambient Temperature : 23.2°C	Ambient Temperature : 23°C
Relative Humidity : 41%	Relative Humidity : 44.1%
Barometric Pressure : 99.7kPa	Barometric Pressure : 99.7kPa

Calibration Technician : Lucky Jaiswal
Calibration Date : 5 Oct 2021
Secondary Check: Max Moore
Report Issue Date : 6 Oct 2021

Approved Signatory : *Ken Williams* Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
12: Acoustical Sig. tests of a frequency weighting	Pass	17: Level linearity incl. the level range control	Pass
13: Electrical Sig. tests of frequency weightings	Pass	18: Toneburst response	Pass
14: Frequency and time weightings at 1 kHz	Pass	19: C Weighted Peak Sound Level	Pass
15: Long Term Stability	Pass	20: Overload Indication	Pass
16: Level linearity on the reference level range	Pass	21: High Level Stability	Pass

The sound level meter submitted for testing has successfully completed the class 2 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full requirements of IEC 61672-1:2013 because evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013 and because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Least Uncertainties of Measurement -			
Acoustic Tests		Environmental Conditions	
125Hz	±0.13dB	Temperature	±0.2°C
1kHz	±0.13dB	Relative Humidity	±2.4%
8kHz	±0.14dB	Barometric Pressure	±0.015kPa
Electrical Tests	±0.10dB		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.



This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172. Accredited for compliance with ISO/IEC 17025 - calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to SI units.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.