metswift

Detailed Weather Downtime Study at

[redacted]

[redacted]

Prepared for:	[redacted]
Prepared by:	J[redacted]
Contact Tel:	[redacted]
Contact email:	[redacted]
Date:	[redacted]

metswift

Table of Contents

metswift

Executive Summary

[redacted] [illegible]

metswift

Current Situation

The construction site is at [redacted] in the centre of [redacted]

Figure 1: The location of the site

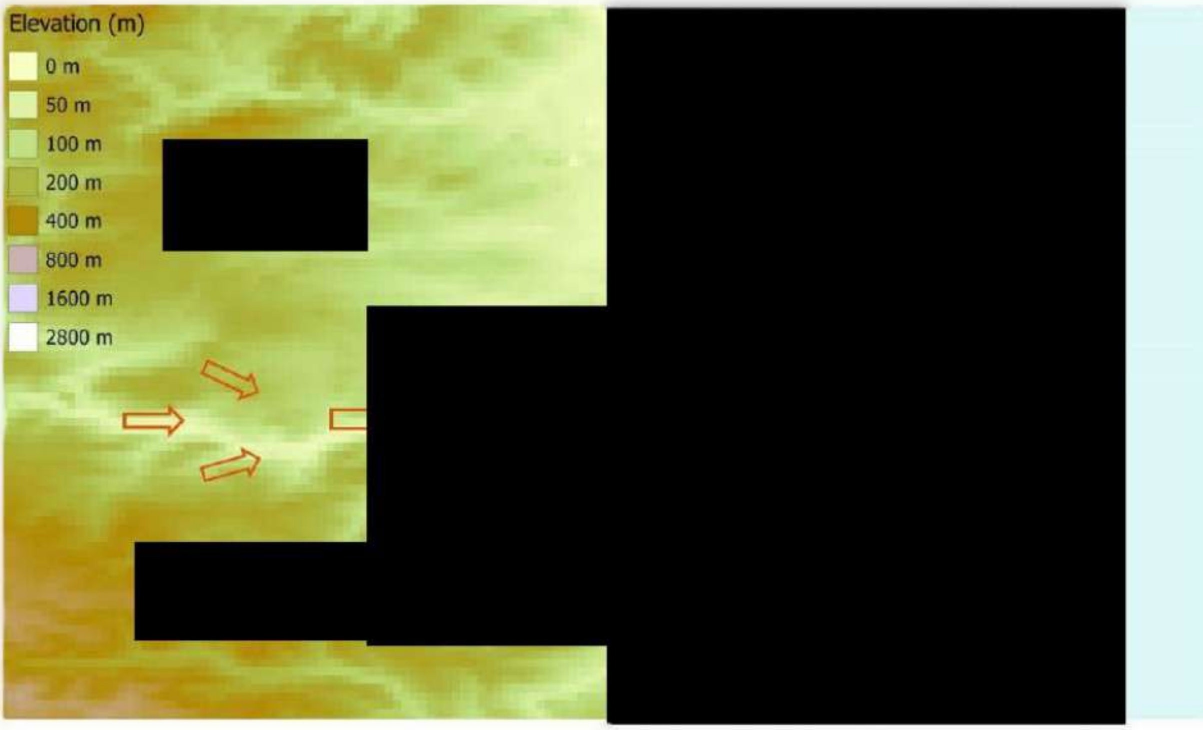
[redacted] is looking to assess the likely downtime risk caused by wind at height. Low temperatures or heavy rainfall as these are important from a safety perspective and because of the likely cost implications of cranes.

Wind Climatology

[redacted] experiences wind directions mainly from between southerly and westerly [redacted] Winds from these directions account for just over half of the time. Most of the remainder of the time the least frequent wind directions are from the easterly, north easterly and south easterly, collectively observed just 8.0% of the time.

Table 1: The frequency and typical speed of the wind for 16 common categories of wind direction, from a weighted blend of data captured at the nearest weather stations to [redacted]

1973-2024					
Wind directions, frequencies (% of time) and mean speeds (mph)					
N	5.0%	11.7	S	9.5%	8.7
NNE	2.9%	10.4	SSW	6.5%	9.2
NE	2.8%	9.8	SW	8.0%	10.3
ENE	3.0%	9.1	WSW	9.9%	12.1
E	4.8%	9.1	W	20.8%	13.2
ESE	3.6%	8.9	WNW	5.1%	9.9
SE	2.8%	7.7	NW	3.0%	8.9
SSE	3.6%	8.1	NNW	3.0%	9.6


Elevation (m)
0 m
50 m
100 m
200 m
400 m
800 m
1600 m
2800 m

metswift

Table 2: The typical wind speed for each month (rows) and time of day (columns) from data captured from the most suitable weather stations relative to [redacted]

Mean Wind Speed (mph) By Month (Rows) & Hour of Day (Columns)																								
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily
1	12	11	11	11	11	10	11	12	12	13	12	13	14	14	14	14	13	13	13	12	12	13	12	12	4.0
2	15	11	11	11	10	10	11	11	12	13	13	14	15	14	14	14	13	12	12	15	15	16	15	15	6.0
3	9	10	10	10	9	9	10	10	10	12	12	13	14	15	15	15	15	14	13	9	9	9	8	8	7.2
4	8	8	8	8	8	7	8	10	11	12	14	14	15	14	13	13	15	13	13	13	11	9	9	8	7.4
5	7	8	7	7	7	7	7	8	8	9	10	10	10	15	14	14	15	14	14	11	10	8	8	7	8.4
6	7	7	7	7	7	6	7	8	8	9	11	10	11	12	11	11	12	11	11	12	10	9	9	7	5.9
7	7	7	6	6	7	6	6	7	7	8	9	8	9	9	8	9	10	9	8	12	10	9	8	7	5.6
8	7	7	7	7	7	6	7	7	7	8	10	10	10	12	12	12	13	12	11	11	9	8	8	7	6.4
9	8	8	8	8	8	8	8	7	7	8	9	9	10	13	13	13	14	13	12	11	9	9	9	8	6.8
10	9	9	8	8	8	8	8	7	7	8	9	8	9	11	10	10	10	9	9	10	9	9	9	9	3.4
11	10	10	10	10	9	9	10	10	10	11	10	11	13	12	12	12	10	10	11	10	10	11	10	10	3.7
12	11	10	10	10	10	10	11	11	11	12	11	12	13	12	12	13	12	11	12	11	11	12	11	11	3.1

Turbulence arises when the sunshine heats surfaces sufficiently to drive strong rising motion in the air above. The air that lifts in this manner must be replaced by air from either side. Gusty conditions become windier. This process ends to peak in either way of the day depending on how cloudy the local climate is. Spring versus summer

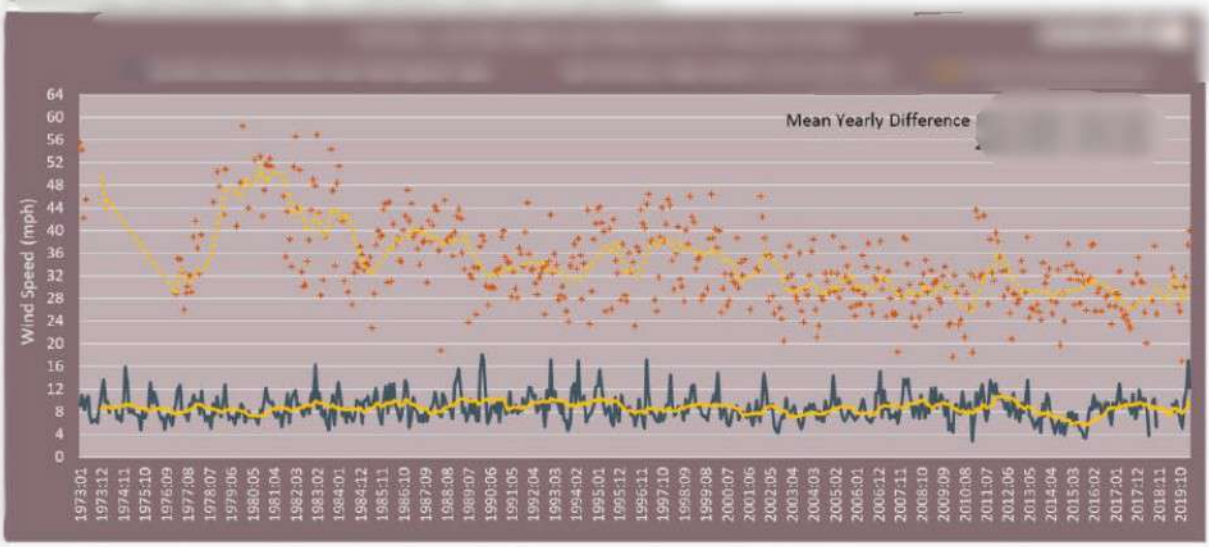
The sea breeze effect is driven by the temperature difference between the land and the sea. The warmer the land relative to sea, the stronger the effect. During spring and summer, daytime temperatures tend to reach much higher than the sea temperatures. The land to sea difference is most positive during the day, so the strongest sea breeze effect in this effect that tends the wind speeds tend to stay lighter during the daytime as westerlies off the Atlantic. Even in the windiest and less predictable months April September.

metswift

Wind Climate Trend

Preliminary analysis of wind patterns since [redacted] has found little trend in mean wind speed (-0.02 mph). This century has so far seen no change to that trend.

Figure 3 Monthly means of daily 10-min wind speed and gust observations from a blend of the weather stations most representative of [redacted], an [redacted] with near yearly



Interestingly, while I believe we could expect the mean wind speed to have dropped markedly. However, while the frequencies (out of 24 hrs) of [redacted] they sum to 49.3% for [redacted]. This tells us that calm conditions have been reported 0.7% less often during the more recent period.

The overall message here is that the wind has tended to blow more often, but less strongly, so far this century.

[redacted] 2024 statistics with [redacted]

Wind directions, frequencies (% of time) and mean speeds (mph)						Difference to [redacted]					
N	4.1%	10.2	S	9.3%	7.3	N	-0.9%	-1.6	S	-0.2%	-1.4
NNE	2.9%	9.7	SSW	6.1%	8.2	NNE	0.0%	-0.7	SSW	-0.4%	-1.0
NE	3.0%	9.2	SW	9.3%	9.7	NE	0.2%	-0.6	SW	1.3%	-0.6
ENE	3.4%	8.4	WSW	10.3%	10.7	ENE	0.4%	-0.8	WSW	0.4%	-1.3
E	4.8%	8.2	W	24.4%	12.7	E	0.0%	-0.9	W	3.6%	-0.5
ESE	3.8%	8.5	WNW	5.4%	8.7	ESE	0.2%	-0.4	WNW	0.3%	-1.2
SE	3.2%	6.8	NW	3.7%	8.1	SE	0.4%	-0.9	NW	0.7%	-0.8
SSE	3.0%	6.1	NNW	3.1%	9.1	SSE	-0.6%	-2.0	NNW	0.1%	-0.5

metswift

Data

Weather stations are often low-tech simple data collection devices, sometimes including a human interface, and so maintenance and reliability issues can be common. MetSwift has developed a series of proprietary algorithms that 'clean' the data, stripping out incorrect data values, whilst guarding against removing real data that may look faulty just because it is an outlier.

The closest weather station was the [redacted], however this station ceased operation in [redacted] in order to provide as complete as possible a dataset for this project additional data was obtained from two stations at [redacted] and stations at [redacted] 66.5% of the final data came from the station at [redacted] covering a period from 1973 to the present day with the remaining 33.5% coming from the [redacted] station which operated between 1973 and [redacted] The stations at [redacted] contributed 0.3% of the final data combined.

Using the Weather Centre station as the baseline, since it is the closest station to the construction site (see figure 2), the other stations underwent a bias analysis and adjustment process to compensate for the differences in local factors between the stations. This allows us to adjust the observations from the other stations to be more reflective of the conditions in [redacted]

Both the Standard and Advanced models were run for this enquiry to highlight how a typical selected [redacted] weather data is

Figure 4 final merged station metadata using the location information of the [redacted]

- Name [redacted]
- Elevation 50[redacted] above sea level
- Latitude [redacted]
- Longitude [redacted]
- Start date: 01/01/1973
- End date: 03/05/2024
- Number of observations: [redacted] with [redacted] accepted [redacted] used after processing

Figure 5: bespoke requirements for downtime calculation

Specific requirements	
Wind and Gust Speed Limits (m/s)	[illegible]
Daily Total Rainfall Limits (mm)	[illegible]
Hourly Total Rainfall Limits (mm)	[illegible]
Temperature Limits (°C)	[illegible]
Working hours	[illegible]
Report start date	[illegible]
Report end date	[illegible]
Standard downtime	[illegible]
Advanced downtime	[illegible]
Portion of working day exceeding thresholds.	[illegible]

[illegible]

[illegible]

Figure 6: [illegible] thresholds

Task	Start	End	Height (m)	Threshold (m/s)	Adjusted Speed (m/s)
Concrete Raft	[illegible]	[illegible]	70	12	9.4
Steel Frame & PCC	[illegible]	[illegible]			
Unitised Cladding	[illegible]	[illegible]		8	6.3
All Tasks	[illegible]	[illegible]		17	13.3

Date Range	Working Days	All Tasks		
Daily Rainfall Total		1 mm	5 mm	10 mm
Full Range	**417**	**33.7 days**	**17.1 days**	**10.4 days**
Full Range as %		**8.08%**	**4.10%**	**2.49%**
01/09/2024 - 30/09/2024	25	2.1 days	1.1 days	0.5 days
01/10/2024 - 31/10/2024	27	3.1 days	1.8 days	1.1 days
01/11/2024 - 30/11/2024	26	1.2 days	0.4 days	0.2 days
01/12/2024 - 31/12/2024	26	1.3 days	0.5 days	0.3 days
01/01/2025 - 31/01/2025	27	1.9 days	0.6 days	0.2 days
01/02/2025 - 28/02/2025	24	2.0 days	0.9 days	0.6 days
01/03/2025 - 31/03/2025	26	2.6 days	1.2 days	0.6 days
01/04/2025 - 30/04/2025	26	3.4 days	1.7 days	1.0 days
01/05/2025 - 31/05/2025	27	2.2 days	1.3 days	0.9 days
01/06/2025 - 30/06/2025	25	2.1 days	1.4 days	0.9 days
01/07/2025 - 31/07/2025	27	1.9 days	1.1 days	0.6 days
01/08/2025 - 31/08/2025	26	1.7 days	0.8 days	0.7 days
01/09/2025 - 30/09/2025	26	2.3 days	1.4 days	0.9 days
01/10/2025 - 31/10/2025	27	2.8 days	1.4 days	0.9 days
01/11/2025 - 30/11/2025	25	0.8 days	0.3 days	0.2 days
01/12/2025 - 31/12/2025	27	2.3 days	1.2 days	0.8 days

metswift

% of day below threshold		50%			60%			70%		
Hourly Rainfall Total		Any	0.1 mm	1 mm	Any	0.1 mm	1 mm	Any	0.1 mm	1 mm
Full Range	**417**	**102.7 days**	**36.3 days**	**5.3 days**	**87.1 days**	**28.6 days**	**3.6 days**	**67.5 days**	**18.8 days**	**1.8 days**
Full Range as %		**24.63%**	**8.71%**	**1.27%**	**20.89%**	**6.86%**	**0.86%**	**16.19%**	**4.51%**	**0.43%**
01/09/2024 - 30/09/2024	25	5.5 days	2.0 days	0.2 days	4.7 days	1.7 days	0.1 days	3.5 days	0.8 days	0.1 days
01/10/2024 - 31/10/2024	27	6.5 days	2.5 days	0.5 days	5.5 days	2.0 days	0.3 days	3.9 days	1.5 days	0.1 days
01/11/2024 - 30/11/2024	26	6.0 days	1.7 days	0.1 days	5.0 days	1.2 days	0.1 days	4.0 days	0.9 days	0.1 days
01/12/2024 - 31/12/2024	26	6.7 days	1.8 days	0.3 days	5.5 days	1.2 days	0.2 days	4.2 days	0.9 days	0.1 days
01/01/2025 - 31/01/2025	27	7.8 days	2.5 days	0.2 days	6.7 days	1.9 days	0.1 days	5.3 days	1.1 days	0.1 days
01/02/2025 - 28/02/2025	24	7.0 days	2.3 days	0.3 days	5.8 days	1.5 days	0.2 days	4.7 days	1.2 days	0.1 days
01/03/2025 - 31/03/2025	26	6.9 days	3.0 days	0.2 days	5.9 days	2.3 days	0.2 days	4.6 days	1.6 days	0.1 days
01/04/2025 - 30/04/2025	26	7.4 days	3.6 days	0.7 days	6.3 days	3.0 days	0.6 days	5.1 days	1.8 days	0.2 days
01/05/2025 - 31/05/2025	27	6.0 days	2.3 days	0.3 days	5.2 days	2.1 days	0.3 days	4.2 days	1.3 days	0.1 days
01/06/2025 - 30/06/2025	25	6.1 days	2.4 days	0.4 days	5.2 days	1.9 days	0.3 days	4.0 days	1.2 days	0.1 days
01/07/2025 - 31/07/2025	27	5.5 days	2.0 days	0.4 days	4.6 days	1.6 days	0.1 days	3.3 days	0.8 days	0.1 days
01/08/2025 - 31/08/2025	26	5.7 days	1.4 days	0.4 days	4.8 days	1.2 days	0.3 days	3.7 days	1.0 days	0.2 days
01/09/2025 - 30/09/2025	26	5.4 days	2.2 days	0.3 days	4.9 days	1.9 days	0.2 days	3.8 days	1.1 days	0.1 days
01/10/2025 - 31/10/2025	27	6.4 days	2.6 days	0.5 days	5.4 days	2.1 days	0.2 days	4.0 days	1.5 days	0.1 days
01/11/2025 - 30/11/2025	25	5.6 days	1.3 days	0.1 days	4.7 days	0.9 days	0.1 days	3.7 days	0.7 days	0.1 days
01/12/2025 - 31/12/2025	27	8.2 days	2.7 days	0.4 days	6.9 days	2.1 days	0.3 days	5.5 days	1.4 days	0.1 days

				0 °C	5 °C		
Full Range	**417**	**5.7 days**	**64.6 days**	**4.9 days**	**59.2 days**	**3.9 days**	**52.9 days**
Full Range as %		**1.37%**	**15.49%**	**1.18%**	**14.20%**	**0.94%**	**12.69%**
01/09/2024 - 30/09/2024	25	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/10/2024 - 31/10/2024	27	0.0 days	0.4 days	0.0 days	0.3 days	0.0 days	0.1 days
01/11/2024 - 30/11/2024	26	0.3 days	4.9 days	0.3 days	4.4 days	0.2 days	3.8 days
01/12/2024 - 31/12/2024	26	1.6 days	11.8 days	1.4 days	11.1 days	1.1 days	10.2 days
01/01/2025 - 31/01/2025	27	1.3 days	13.7 days	1.0 days	12.7 days	0.9 days	11.9 days
01/02/2025 - 28/02/2025	24	0.3 days	9.7 days	0.3 days	8.7 days	0.2 days	7.7 days
01/03/2025 - 31/03/2025	26	0.2 days	5.2 days	0.1 days	4.8 days	0.1 days	3.9 days
01/04/2025 - 30/04/2025	26	0.0 days	2.1 days	0.0 days	1.9 days	0.0 days	1.4 days
01/05/2025 - 31/05/2025	27	0.0 days	0.1 days	0.0 days	0.1 days	0.0 days	0.1 days
01/06/2025 - 30/06/2025	25	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/07/2025 - 31/07/2025	27	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/08/2025 - 31/08/2025	26	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/09/2025 - 30/09/2025	26	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/10/2025 - 31/10/2025	27	0.0 days	0.4 days	0.0 days	0.2 days	0.0 days	0.1 days
01/11/2025 - 30/11/2025	25	0.2 days	4.1 days	0.2 days	3.6 days	0.2 days	3.2 days
01/12/2025 - 31/12/2025	27	1.8 days	12.2 days	1.6 days	11.4 days	1.2 days	10.5 days

metswift

Figure 11: Advanced downtime risk for 417 working days between 01/09/2024 – 31/12/2025 for the three given wind speed and wind gust thresholds at the three different working hour percentage thresholds. Highlighted in bold are the planned working months where each threshold is relevant. The total downtime days and percentages at the top of the columns are calculated based on these planned working periods, and do not include non-bolded figures.

Downtime Estimates - Advanced Statistics										
[redacted]										
70m above ground level										
Date Range	Working Days	Concrete, Steel, and PCC	Unitised Cladding	General Winding Off	Concrete, Steel, and PCC	Unitised Cladding	General Winding Off	Concrete, Steel, and PCC	Unitised Cladding	General Winding Off
% of day below threshold		50%			60%			70%		
Wind Speed / Wind Gust Limit		12 m/s	8 m/s	17 m/s	12 m/s	8 m/s	17 m/s	12 m/s	8 m/s	17 m/s
Planned Working Period	**417**	**36.4 days**	**38.1 days**	**28.1 days**	**30.7 days**	**32.9 days**	**22.7 days**	**23.9 days**	**26.2 days**	**16.2 days**
Planned Period as %		**14.05%**	**20.82%**	**6.74%**	**11.85%**	**17.98%**	**5.44%**	**9.23%**	**14.32%**	**3.88%**
01/09/2024 - 30/09/2024	25	**1.9 days**	4.8 days	**1.1 days**	**1.5 days**	4.0 days	**0.9 days**	**1.0 days**	2.3 days	**0.6 days**
01/10/2024 - 31/10/2024	27	**2.4 days**	3.6 days	**1.8 days**	**2.0 days**	3.2 days	**1.4 days**	**1.4 days**	2.3 days	**1.0 days**
01/11/2024 - 30/11/2024	26	**3.0 days**	7.4 days	**1.6 days**	**2.4 days**	6.3 days	**1.2 days**	**1.8 days**	4.9 days	**0.8 days**
01/12/2024 - 31/12/2024	26	**4.0 days**	8.1 days	**2.5 days**	**3.3 days**	7.3 days	**2.0 days**	**2.8 days**	6.4 days	**1.5 days**
01/01/2025 - 31/01/2025	27	**5.3 days**	10.0 days	**3.4 days**	**4.6 days**	9.0 days	**2.6 days**	**3.7 days**	7.8 days	**2.1 days**
01/02/2025 - 28/02/2025	24	**5.4 days**	10.0 days	**3.0 days**	**4.7 days**	9.0 days	**2.5 days**	**3.7 days**	7.9 days	**2.0 days**
01/03/2025 - 31/03/2025	26	**5.4 days**	10.9 days	**3.1 days**	**4.7 days**	10.0 days	**2.5 days**	**3.6 days**	8.6 days	**2.0 days**
01/04/2025 - 30/04/2025	26	**4.6 days**	11.5 days	**2.0 days**	**4.1 days**	10.6 days	**1.7 days**	**3.5 days**	9.4 days	**1.0 days**
01/05/2025 - 31/05/2025	27	**2.7 days**	8.9 days	**1.1 days**	**2.1 days**	7.3 days	**1.0 days**	**1.4 days**	4.4 days	**0.6 days**
01/06/2025 - 30/06/2025	25	**1.7 days**	**4.9 days**	**0.8 days**	**1.3 days**	**4.5 days**	**0.7 days**	**1.0 days**	**4.0 days**	**0.4 days**
01/07/2025 - 31/07/2025	27	0.8 days	**1.7 days**	**0.5 days**	0.7 days	**1.3 days**	**0.4 days**	0.4 days	**1.0 days**	**0.2 days**
01/08/2025 - 31/08/2025	26	1.6 days	**6.2 days**	**0.5 days**	1.4 days	**5.2 days**	**0.4 days**	0.7 days	**4.4 days**	**0.2 days**
01/09/2025 - 30/09/2025	26	2.0 days	**5.7 days**	**1.2 days**	1.5 days	**4.7 days**	**1.0 days**	1.2 days	**2.6 days**	**0.7 days**
01/10/2025 - 31/10/2025	27	2.6 days	**4.6 days**	**1.7 days**	2.1 days	**3.9 days**	**1.4 days**	1.4 days	**2.9 days**	**1.1 days**
01/11/2025 - 30/11/2025	25	3.0 days	**7.0 days**	**1.6 days**	2.5 days	**6.0 days**	**1.2 days**	1.9 days	**5.1 days**	**0.8 days**
01/12/2025 - 31/12/2025	27	3.9 days	**8.0 days**	**2.2 days**	3.1 days	**7.3 days**	**1.8 days**	2.7 days	**6.2 days**	**1.2 days**

metswift

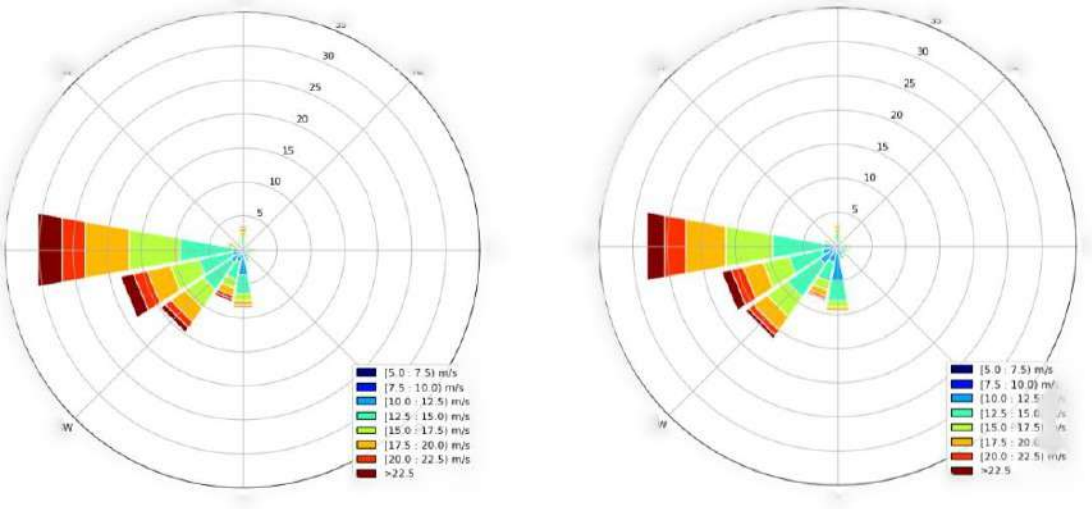
Between April and October, the risk of sub-zero temperatures va
temperatures below 5 °C, that period is June to September. These resul
lower in the advanced results, suggesting a slightly warmer 16-month
long-term average.

For the daily rainfall totals, risk is present throughout the year at even
level. This risk peaks in October 2024 and April 2025, with the lowest ris
November 2024 to January 2025, and November 2025. The advanced re
different to the standard results found in the appendix, with significantly lo
in all months.

In the hourly rainfall assessment, the same dryer than average forecast is visible, with lower risk across the board compared to the standard, especially at the lower thresholds. April and August 2025 have the highest risk of 70% of the day being above 1 mm per hour, likely due to the prevalence of more showery conditions during these months. August does not show the same stand out risk at the lower limits, since rain is less common generally during the month, whereas April is also amongst the wettest months at the 0.1mm and “Any rain” thresholds alongside January, February, March, and December 2025. A similar pattern to that seen in the daily totals can be seen in these

metswift

Figure 12 Wind gust speed and direction Standard years (left) analogues years (right)), summarized from at least hourly wind gust recordings between 1973 and 2020 at the merged [redacted] station.



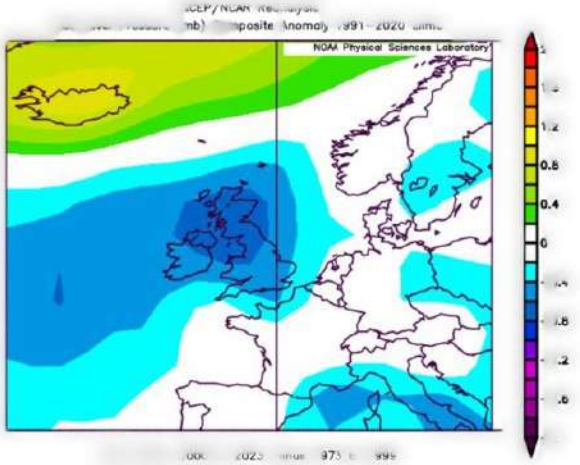
The pattern of the winds at [redacted] is very consistent between the standard and advanced results with a very dominant westerly and south westerly flow driven by the UK's low prevailing wind and the [redacted] blocking these incoming winds and channelling the [redacted]. The advanced results do show a slight increase in the frequency of easterly and north westerly winds and a reduction in the strongest westerly winds but this is only around a 2% swing.

Explanation

Examining typical sea level pressure in the vicinity of the UK during 1973-1999 compared to 2000-2024 (see below) there's been a shift to lower values across and to the west of the UK indicating more frequent low pressure in that area.

This is a plausible explanation for the reduced frequency of calm conditions and can also explain winds with a westerly component having become even more frequent so at this location.

Figure 13 Comparison of mean sea level pressure between 2000-2025 & 1973-1999. Blue shading represents lower pressure on average so far this century, green to yellow shading higher pressure.



metswift

Contact Us

Registered Head Office

No. 1 Aire Street
Leeds, United Kingdom
LS1 4PR

Tel: 020 7 346 32 7 7
Web: www.metswift.com
Email: joseph@metswift.com

metswift

Appendices

Figure A1 Standard downtime risk for 417 working days between 01/09/2024 31/12/2025 for the three given daily rainfall thresholds

Downtime Estimates - Standard Statistics				
Date Range	Working Days	All Tasks		
Daily Rainfall Total		1 mm	5 mm	10 mm
Full Range	**417**	**77.6 days**	**42.4 days**	**25.5 days**
Full Range as %		**18.61%**	**10.17%**	**6.12%**
01/09/2024 - 30/09/2024	25	4.3 days	2.3 days	1.5 days
01/10/2024 - 31/10/2024	27	5.3 days	2.9 days	1.7 days
01/11/2024 - 30/11/2024	26	5.2 days	2.9 days	1.6 days
01/12/2024 - 31/12/2024	26	4.8 days	2.5 days	1.4 days
01/01/2025 - 31/01/2025	27	5.0 days	2.5 days	1.4 days
01/02/2025 - 28/02/2025	24	4.3 days	1.9 days	1.1 days
01/03/2025 - 31/03/2025	26	4.6 days	2.3 days	1.3 days
01/04/2025 - 30/04/2025	26	4.7 days	2.5 days	1.6 days
01/05/2025 - 31/05/2025	27	4.6 days	2.8 days	1.7 days
01/06/2025 - 30/06/2025	25	5.2 days	3.5 days	2.2 days
01/07/2025 - 31/07/2025	27	4.9 days	2.8 days	1.7 days
01/08/2025 - 31/08/2025	26	4.8 days	2.8 days	2.0 days
01/09/2025 - 30/09/2025	26	4.5 days	2.5 days	1.6 days
01/10/2025 - 31/10/2025	27	5.6 days	3.0 days	1.7 days
01/11/2025 - 30/11/2025	25	5.0 days	2.7 days	1.5 days
01/12/2025 - 31/12/2025	27	4.8 days	2.5 days	1.5 days

Figure A2 Standard downtime risk for 417 working days between 01/09/2024 31/12/2025 for the three given hourly rainfall thresholds at the three different working hour percentage thresholds

Downtime Estimates - Standard Statistics										
Date Range	Working Days	All Tasks								
% of day below threshold		50%			60%			70%		
Hourly Rainfall Total		Any	0.1 mm	1 mm	Any	0.1 mm	1 mm	Any	0.1 mm	1 mm
Full Range	**417**	**141.4 days**	**71.3 days**	**10.8 days**	**121.9 days**	**59.6 days**	**8.6 days**	**95.7 days**	**40.7 days**	**4.7 days**
Full Range as %		**33.91%**	**17.10%**	**2.59%**	**29.23%**	**14.29%**	**2.06%**	**22.95%**	**9.76%**	**1.13%**
01/09/2024 - 30/09/2024	25	7.4 days	3.5 days	0.5 days	6.4 days	3.0 days	0.3 days	4.7 days	1.7 days	0.2 days
01/10/2024 - 31/10/2024	27	9.5 days	5.0 days	0.8 days	8.1 days	4.0 days	0.5 days	6.2 days	2.7 days	0.1 days
01/11/2024 - 30/11/2024	26	9.5 days	4.9 days	0.6 days	8.3 days	3.9 days	0.5 days	6.6 days	2.9 days	0.4 days
01/12/2024 - 31/12/2024	26	9.5 days	4.8 days	0.7 days	8.2 days	4.1 days	0.6 days	6.5 days	2.9 days	0.3 days
01/01/2025 - 31/01/2025	27	9.7 days	4.8 days	0.6 days	8.5 days	4.1 days	0.4 days	6.7 days	2.8 days	0.3 days
01/02/2025 - 28/02/2025	24	8.6 days	4.3 days	0.5 days	7.5 days	3.5 days	0.4 days	5.9 days	2.5 days	0.2 days
01/03/2025 - 31/03/2025	26	9.4 days	4.3 days	0.3 days	8.2 days	3.5 days	0.3 days	6.4 days	2.5 days	0.1 days
01/04/2025 - 30/04/2025	26	9.0 days	4.7 days	0.9 days	7.5 days	3.9 days	0.8 days	5.9 days	2.4 days	0.4 days
01/05/2025 - 31/05/2025	27	8.1 days	3.9 days	0.6 days	7.2 days	3.5 days	0.6 days	5.7 days	2.4 days	0.3 days
01/06/2025 - 30/06/2025	25	8.1 days	4.5 days	1.0 days	6.9 days	3.8 days	0.8 days	5.6 days	2.8 days	0.5 days
01/07/2025 - 31/07/2025	27	8.3 days	4.2 days	0.8 days	6.9 days	3.4 days	0.6 days	5.4 days	2.2 days	0.4 days
01/08/2025 - 31/08/2025	26	8.0 days	3.8 days	1.0 days	6.9 days	3.2 days	0.8 days	5.5 days	2.3 days	0.5 days
01/09/2025 - 30/09/2025	26	7.6 days	3.7 days	0.5 days	6.6 days	3.3 days	0.4 days	5.0 days	2.0 days	0.2 days
01/10/2025 - 31/10/2025	27	9.6 days	5.2 days	0.8 days	8.1 days	4.2 days	0.5 days	6.3 days	2.8 days	0.2 days
01/11/2025 - 30/11/2025	25	9.1 days	4.7 days	0.6 days	8.0 days	3.9 days	0.5 days	6.4 days	2.8 days	0.4 days
01/12/2025 - 31/12/2025	27	10.0 days	5.0 days	0.6 days	8.6 days	4.3 days	0.6 days	6.9 days	3.0 days	0.2 days

metswift

Figure 4.3: Standard downtime risk for 417 working days between 01/09/2024 - 31/12/2025 for the two given maximum temperature thresholds at the three different working hour percentage thresholds

Downtime Estimates - Standard Statistics

[redacted]

Date Range	Working Days	All Tasks					
% of day below threshold		50%		60%		70%	
Maximum Temperature Limit		0 °C	5 °C	0 °C	5 °C	0 °C	5 °C
Full Range	**417**	**6.7 days**	**73.3 days**	**5.6 days**	**68.0 days**	**4.2 days**	**60.9 days**
Full Range as %		**1.61%**	**17.58%**	**1.34%**	**16.31%**	**1.01%**	**14.60%**
01/09/2024 - 30/09/2024	25	0.0 days	0.1 days	0.0 days	0.1 days	0.0 days	0.0 days
01/10/2024 - 31/10/2024	27	0.0 days	0.4 days	0.0 days	0.3 days	0.0 days	0.2 days
01/11/2024 - 30/11/2024	26	0.3 days	5.9 days	0.2 days	5.3 days	0.2 days	4.6 days
01/12/2024 - 31/12/2024	26	1.6 days	12.4 days	1.4 days	11.8 days	1.1 days	10.9 days
01/01/2025 - 31/01/2025	27	1.7 days	14.7 days	1.4 days	13.8 days	1.1 days	13.0 days
01/02/2025 - 28/02/2025	24	0.9 days	11.3 days	0.8 days	10.5 days	0.5 days	9.4 days
01/03/2025 - 31/03/2025	26	0.3 days	6.9 days	0.2 days	6.3 days	0.1 days	5.3 days
01/04/2025 - 30/04/2025	26	0.0 days	2.7 days	0.0 days	2.4 days	0.0 days	1.8 days
01/05/2025 - 31/05/2025	27	0.0 days	0.1 days	0.0 days	0.1 days	0.0 days	0.1 days
01/06/2025 - 30/06/2025	25	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/07/2025 - 31/07/2025	27	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/08/2025 - 31/08/2025	26	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/09/2025 - 30/09/2025	26	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days	0.0 days
01/10/2025 - 31/10/2025	27	0.0 days	0.6 days	0.0 days	0.4 days	0.0 days	0.2 days
01/11/2025 - 30/11/2025	25	0.3 days	5.5 days	0.2 days	4.9 days	0.1 days	4.3 days
01/12/2025 - 31/12/2025	27	1.6 days	12.7 days	1.4 days	12.1 days	1.1 days	11.1 days

Figure 4.4: Standard downtime risk for [redacted] working days between 01/09/2024 - 31/12/2025 for the three given wind speed and wind gust thresholds at the three different working hour percentage thresholds highlighted in bold are the planned working months which should be relevant. The total downtime days and percentages at the top of the columns are calculated based on these planned working periods, and not of the whole dataset figures.

Downtime Estimates - Standard Statistics

[redacted]

70m above ground level

Date Range	Working Days	Concrete, Steel, and PCC	Unitised Cladding	General Winding Off	Concrete, Steel, and PCC	Unitised Cladding	General Winding Off	Concrete, Steel, and PCC	Unitised Cladding	General Winding Off
% of day below threshold		50%			60%			70%		
Wind Speed / Wind Gust Limit		12 m/s	8 m/s	17 m/s	12 m/s	8 m/s	17 m/s	12 m/s	8 m/s	17 m/s
Planned Working Period	**417**	**38.6 days**	**46.0 days**	**29.9 days**	**32.4 days**	**40.5 days**	**24.8 days**	**25.3 days**	**33.0 days**	**18.5 days**
Planned Period as %		**14.90%**	**25.14%**	**7.17%**	**12.51%**	**22.13%**	**5.95%**	**9.77%**	**18.03%**	**4.44%**
01/09/2024 - 30/09/2024	25	**2.7 days**	7.5 days	**1.3 days**	**2.1 days**	6.7 days	**1.1 days**	**1.5 days**	5.1 days	**0.8 days**
01/10/2024 - 31/10/2024	27	**2.3 days**	5.2 days	**1.6 days**	**1.9 days**	4.6 days	**1.3 days**	**1.4 days**	3.7 days	**1.0 days**
01/11/2024 - 30/11/2024	26	**3.3 days**	8.1 days	**1.8 days**	**2.7 days**	6.9 days	**1.4 days**	**2.1 days**	5.5 days	**1.0 days**
01/12/2024 - 31/12/2024	26	**4.6 days**	9.3 days	**2.9 days**	**3.8 days**	8.5 days	**2.4 days**	**3.2 days**	7.3 days	**1.8 days**
01/01/2025 - 31/01/2025	27	**6.0 days**	11.2 days	**3.7 days**	**5.2 days**	10.3 days	**3.1 days**	**4.2 days**	9.1 days	**2.5 days**
01/02/2025 - 28/02/2025	24	**5.6 days**	10.3 days	**3.0 days**	**4.7 days**	9.5 days	**2.5 days**	**3.7 days**	8.3 days	**2.0 days**
01/03/2025 - 31/03/2025	26	**5.4 days**	11.5 days	**3.1 days**	**4.7 days**	10.4 days	**2.7 days**	**3.6 days**	8.9 days	**2.2 days**
01/04/2025 - 30/04/2025	26	**4.5 days**	11.7 days	**2.0 days**	**3.9 days**	10.8 days	**1.5 days**	**3.2 days**	9.6 days	**1.1 days**
01/05/2025 - 31/05/2025	27	**2.7 days**	9.2 days	**1.3 days**	**2.2 days**	7.6 days	**1.1 days**	**1.5 days**	5.0 days	**0.8 days**
01/06/2025 - 30/06/2025	25	**1.5 days**	**5.6 days**	**0.6 days**	**1.2 days**	**5.2 days**	**0.5 days**	**0.9 days**	**4.4 days**	**0.3 days**
01/07/2025 - 31/07/2025	27	1.1 days	**3.6 days**	**0.6 days**	0.8 days	**3.0 days**	**0.6 days**	0.6 days	**2.3 days**	**0.3 days**
01/08/2025 - 31/08/2025	26	1.7 days	**6.3 days**	**0.6 days**	1.5 days	**5.4 days**	**0.5 days**	0.9 days	**4.5 days**	**0.3 days**
01/09/2025 - 30/09/2025	26	2.7 days	**7.7 days**	**1.3 days**	2.1 days	**6.7 days**	**1.1 days**	1.6 days	**5.2 days**	**0.8 days**
01/10/2025 - 31/10/2025	27	2.5 days	**5.5 days**	**1.7 days**	2.0 days	**4.8 days**	**1.4 days**	1.4 days	**3.7 days**	**1.1 days**
01/11/2025 - 30/11/2025	25	3.3 days	**8.0 days**	**1.8 days**	2.7 days	**6.9 days**	**1.4 days**	2.1 days	**5.7 days**	**0.9 days**
01/12/2025 - 31/12/2025	27	4.4 days	**9.3 days**	**2.6 days**	3.7 days	**8.5 days**	**2.2 days**	3.1 days	**7.2 days**	**1.6 days**