Analysing impact of Wind on Port Delays

Mar 2025

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A STUDY ON PORT DELAYS CAUSED BY WIND

INTRODUCTION

Marcura Intelligence conducted a comprehensive analysis of over 16,000+ port calls between 2020 and 2024, specifically focusing on instances where wind was cited as the cause of delays in berth and/or cargo operations.

The primary objective of this study was to identify and thoroughly examine ports exhibiting specific patterns, indicating the following:

- Frequent occurrence of wind-related delays
- Significant impact of wind on port operations
- Instances where such delays resulted in additional costs for the ports involved

METHODOLOGY

This study serves as a risk assessment for regions that are most affected, considering seasonal variations and the times of day when the impact is most pronounced. It is worth noting that instances where weather conditions were simply described as "bad weather" or similar without further details were not considered, so the actual number of wind-related delays is likely higher.

It is important to clarify that this study specifically concentrates on the risks associated with port stays and does not cover risks or delays during the sea route. We have provided a region-specific analysis for ports that exhibit similar patterns within the same area.

Additionally, the study provided insights into how wind frequency and direction should be interpreted. For instance, we observed that winds from a frequent direction or higher speeds do not necessarily hinder navigation or shelter.

Beaufort Force	Wind Speed (miles per hour)	Category
0 & 1	<= 3	Light
2 & 3	4 - 12	Gentle
4 & 5	13 - 24	Moderate
6 & 7	25 - 33	High
8 & 9	34 - 54	Gale
10 to 12	> 54	Violent

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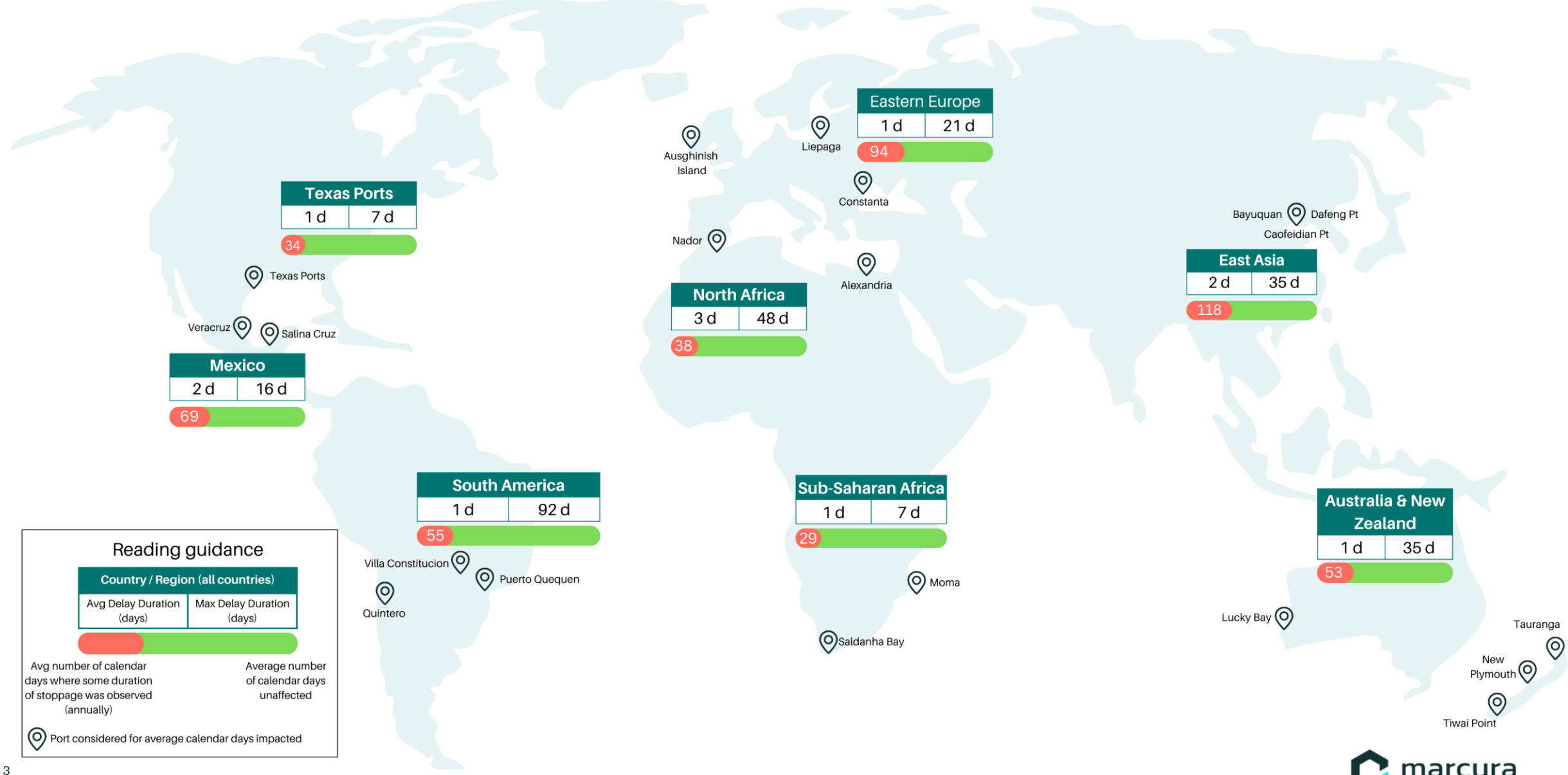
Regional Wind Delays



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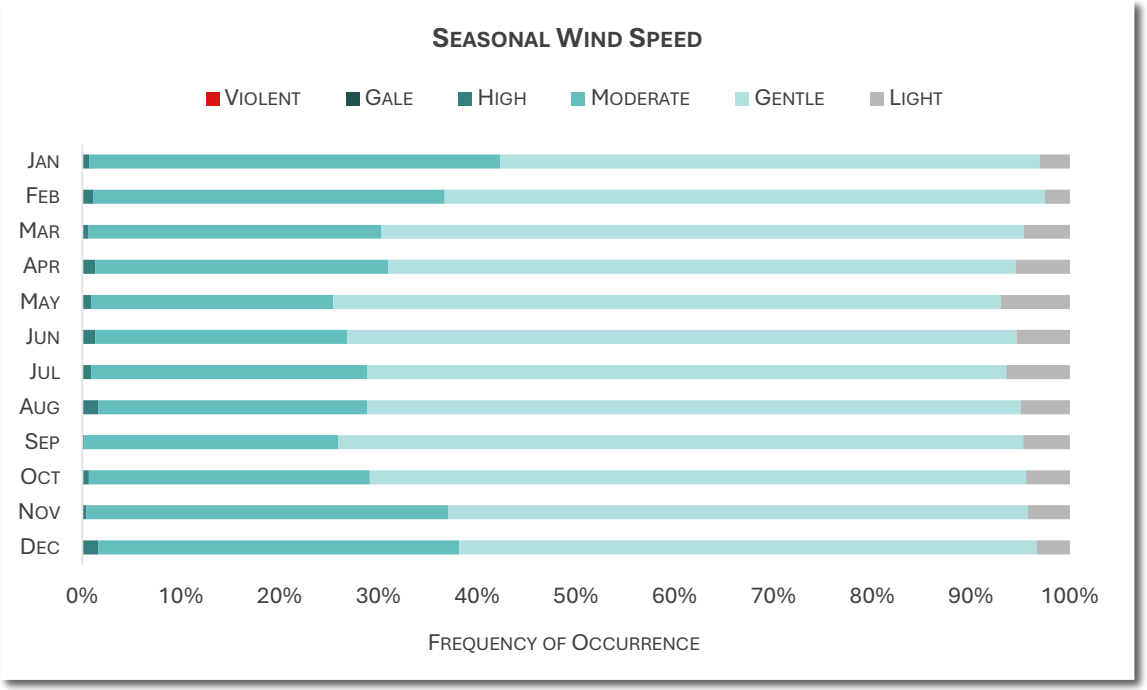
South America

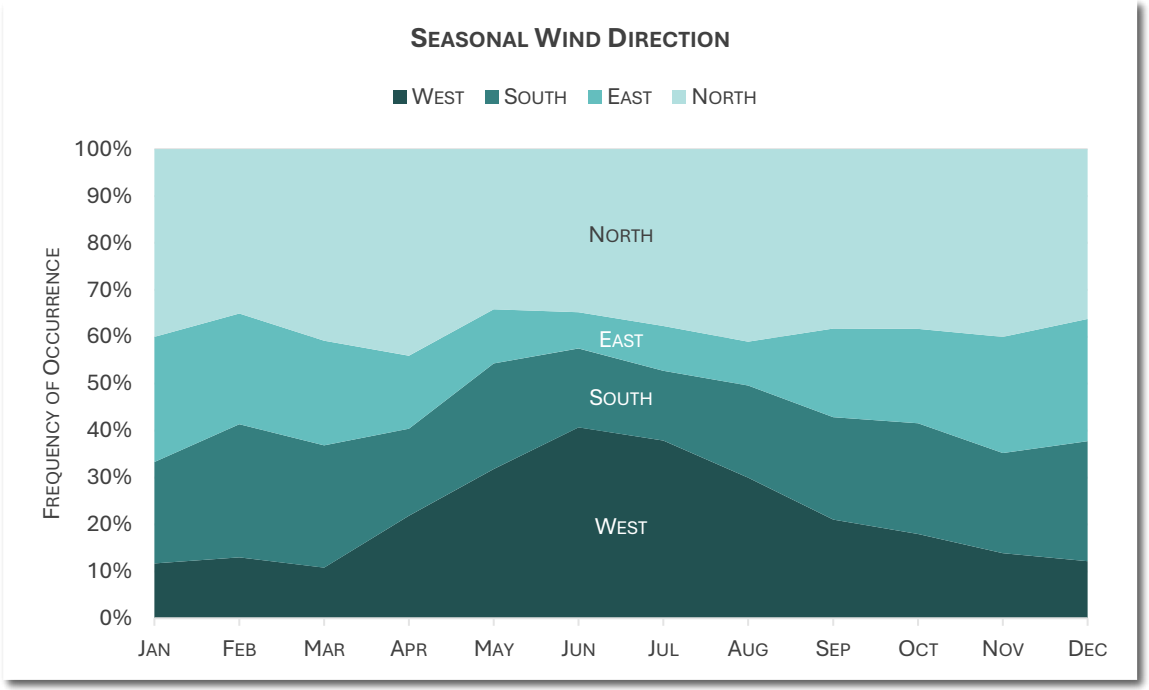
Port of Puerto Quequen , Argentina

PortLog

Southeast / westerly winds at the speed of 50 - 60km / hr with a swell range from 2.4m to 3.2m results in port closure impacting cargo operations. This is usually accompanied by rain.

Extreme delays of up to 6 days are mostly felt between March and July. Additional costs of USD 20,000 to USD 60,000 for harbor / berth dues can be incurred during this time.





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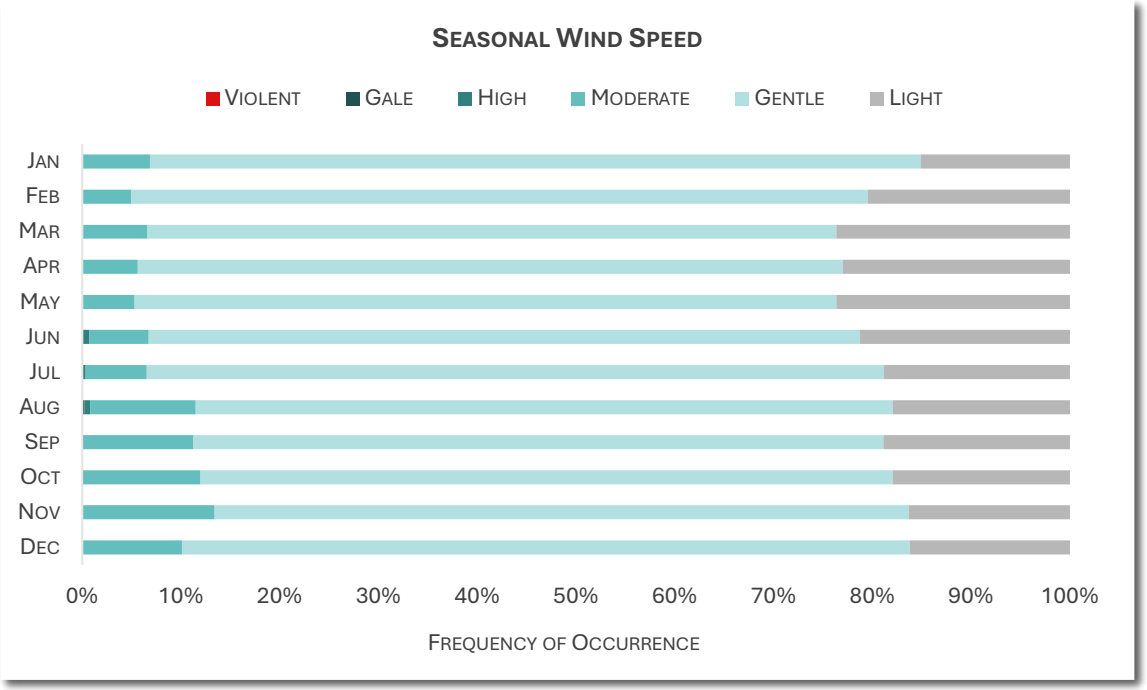
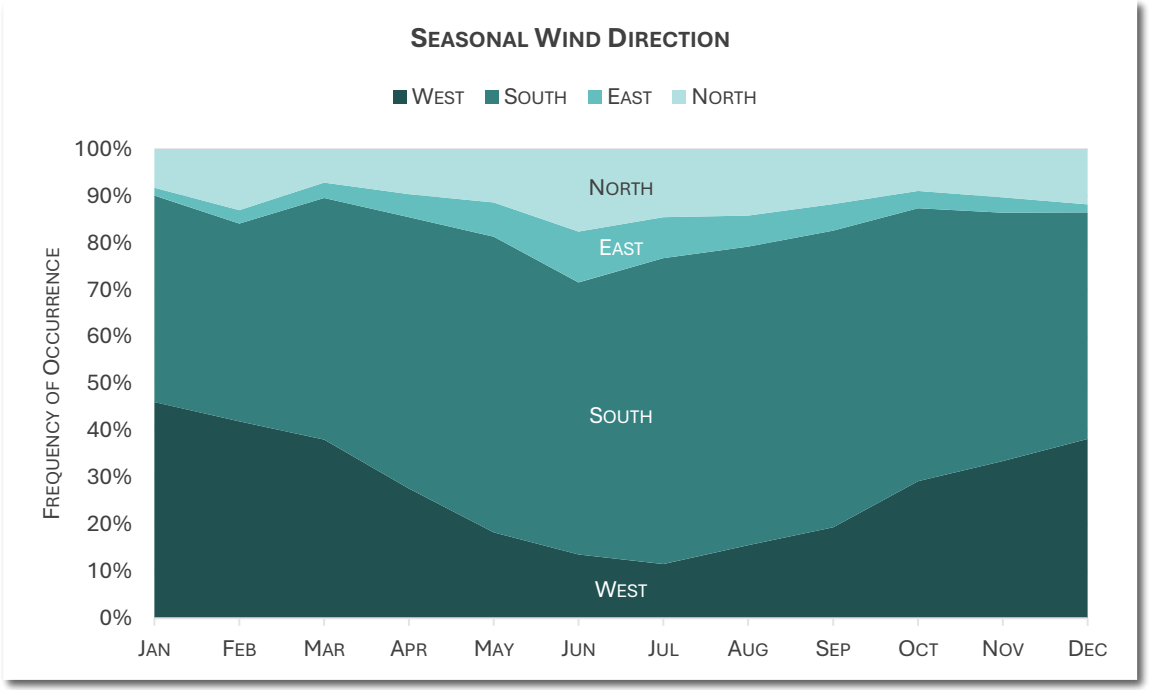
Port of Quintero, Chile

During summer (December to February) in Quintero, the prevailing winds are mainly from the southwest (SW), strongest in December. The bay provides shelter from southern winds but is exposed to the northwest (NW).

Port closures are common due to high winds, causing average delays of one and a half days for berthing and cargo operations, with maximum delays observed up to 13 days.



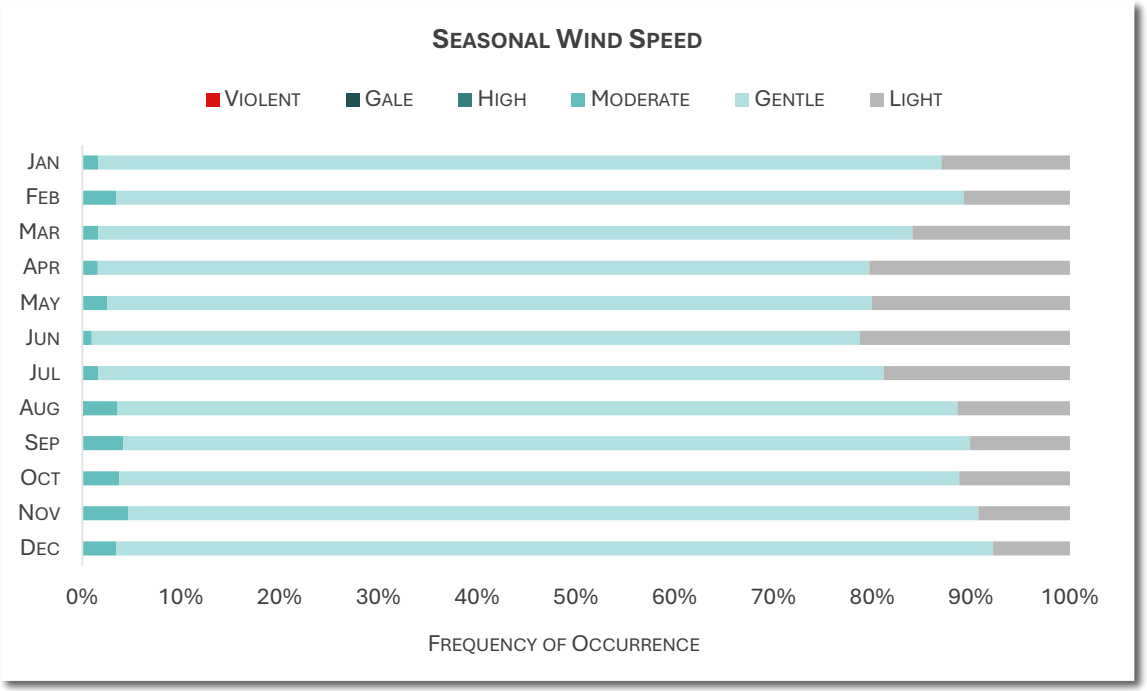


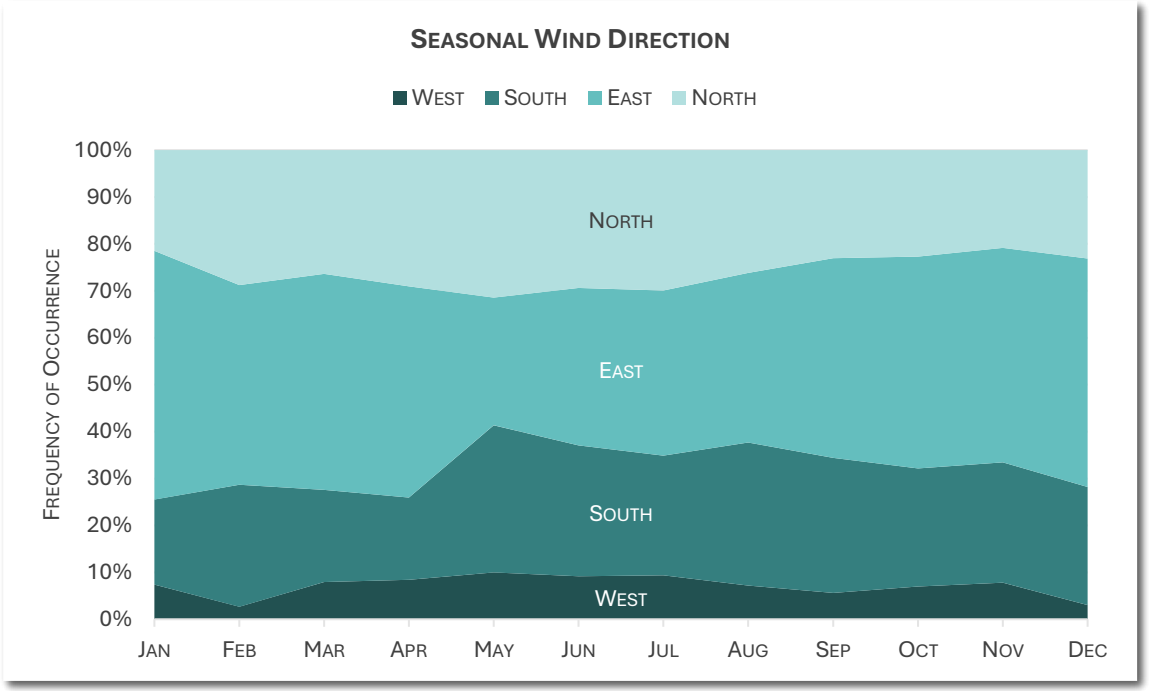
Port of Villa Constitucion, Argentina

PortLog

Villa Constitución frequently observes wind-related interruptions in port operations, as wind impacts are observed throughout the year. These conditions result in delays averaging nearly half a day, with more severe cases extending up to 6 days.

The prevailing winds in the region primarily come from the east-southeast.





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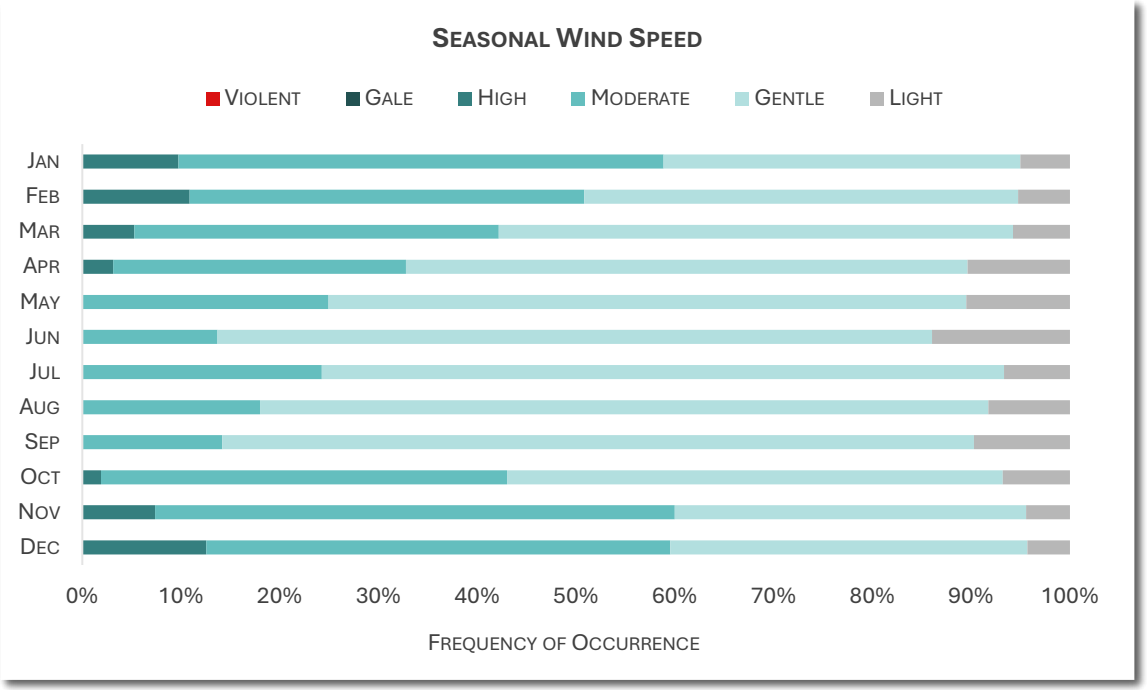
Mexico

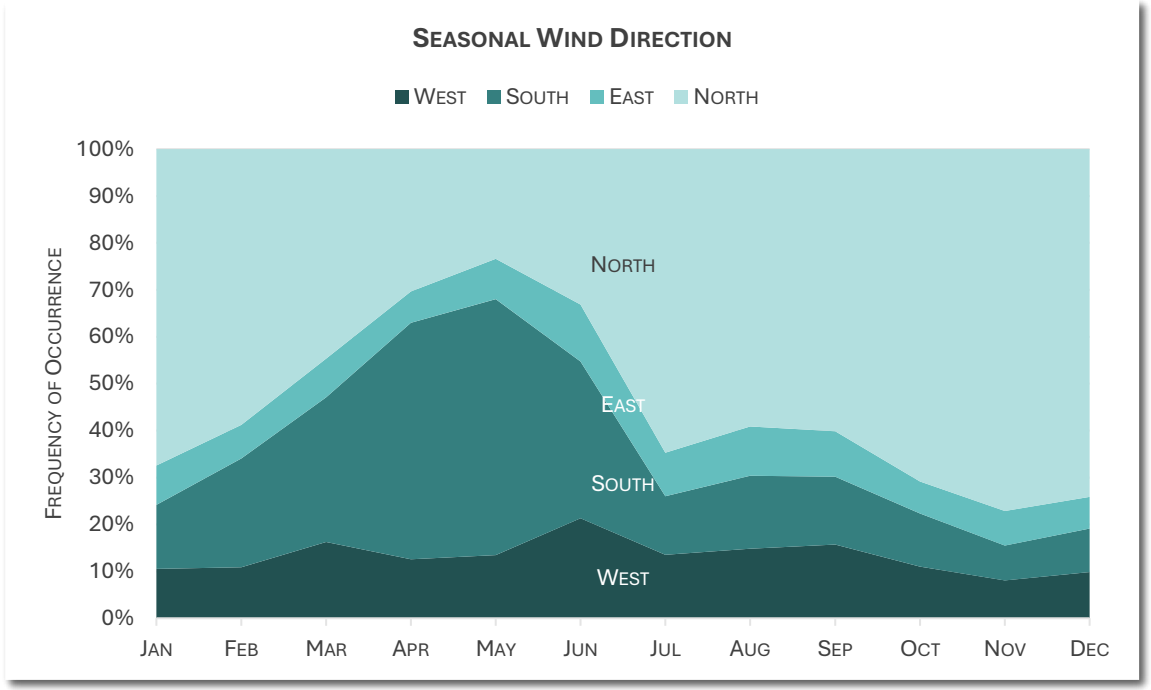
Port of Salina Cruz , Mexico

PortLog

The Port of Salina Cruz observes gentle to moderate wind effects throughout the year, primarily from the north and south.

These conditions typically cause port delays averaging 2 days, with a maximum delay of up to 9 days.





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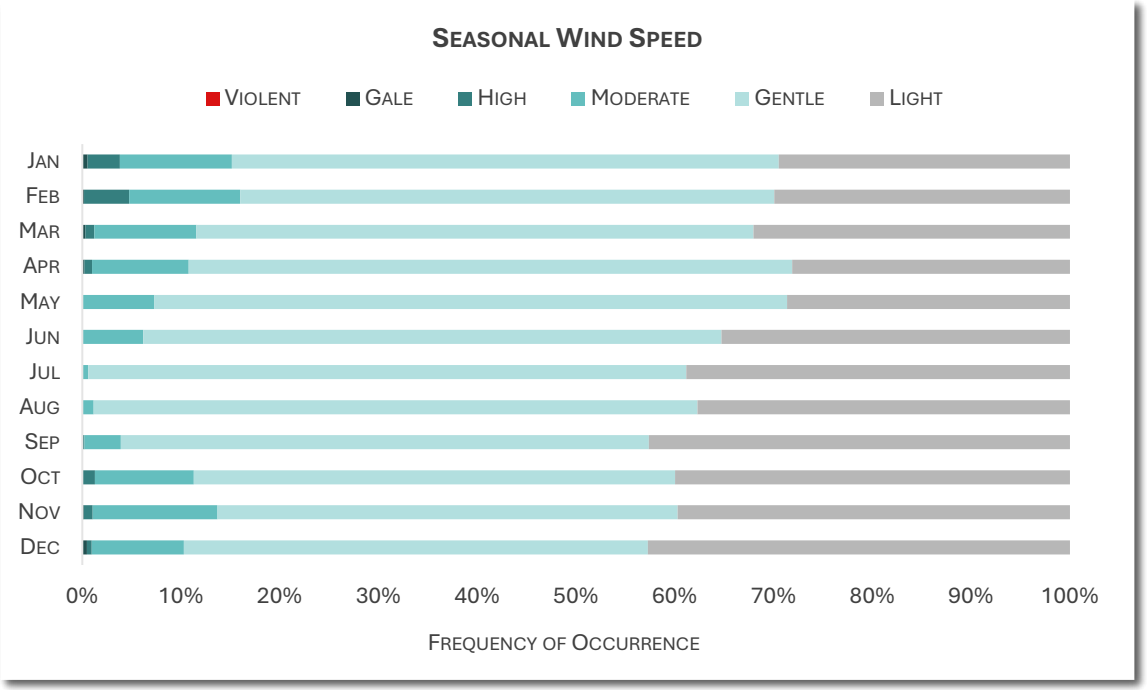
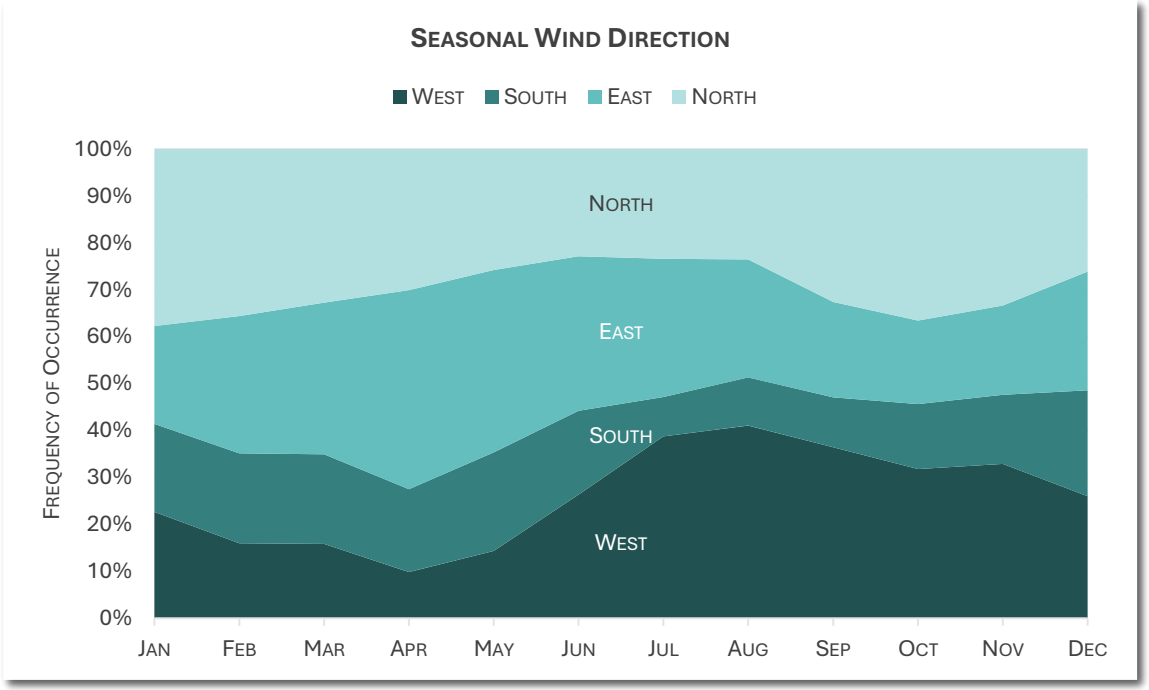
Port of Veracruz , Mexico

PortLog

Port closures are common from October to April when northern winds prevail, often leading to delays.

The maximum observed delay is 16 days, with an average delay of 2 days.





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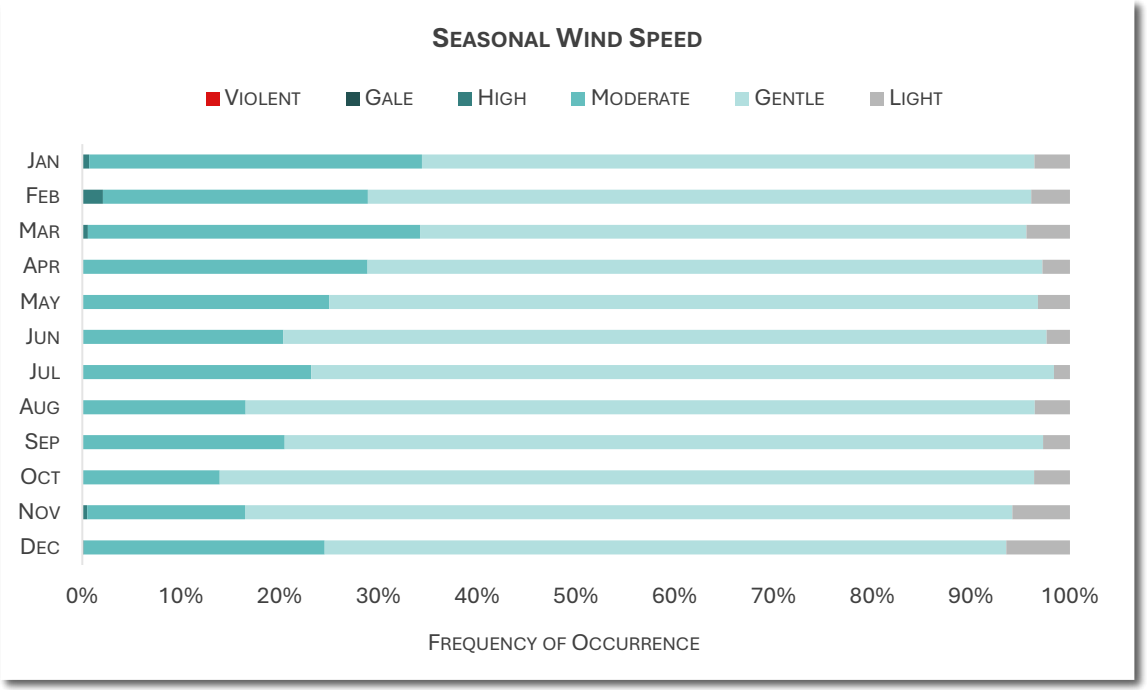
Africa

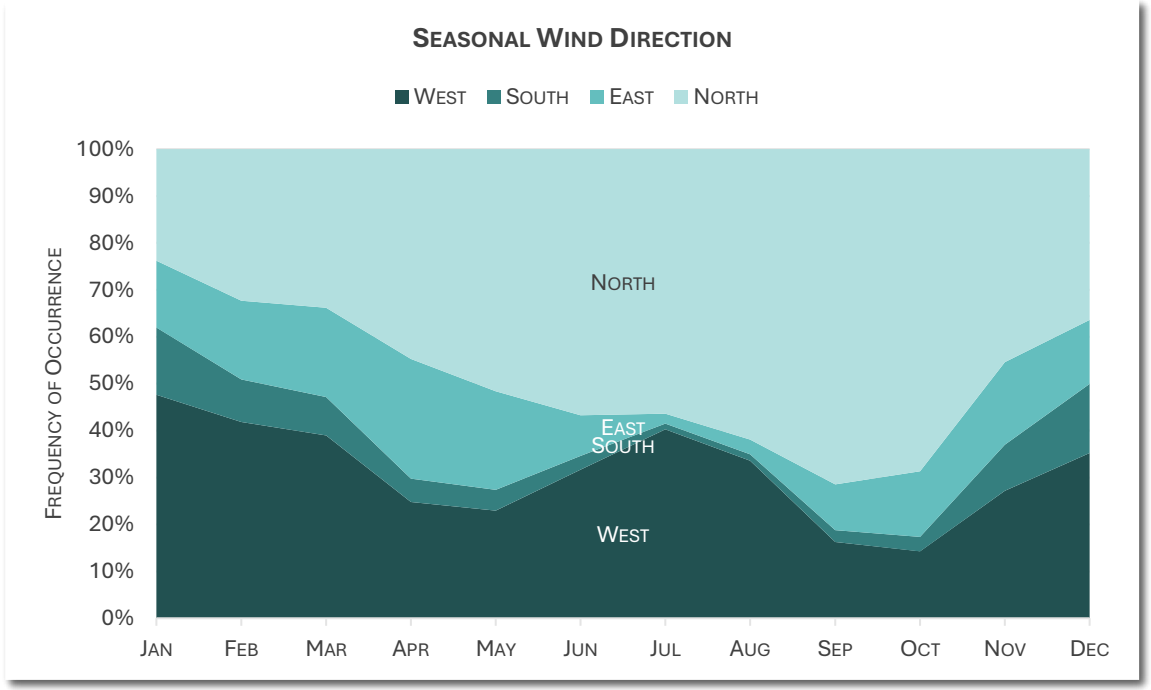
Port of El Iskandriya , Egypt

PortLog

Port closures are common due to high waves and winds. In winter (December-March): Frequent gales (Beaufort 7-8) from NW are common.

Sometimes very strong W or N winds (force 7/8 Beaufort scale) is expected. In spring (March-May): Variable wind, strong E, SE, S, or SW wind. SW, S wind mostly cause sandstorms. Occasional gales in March.





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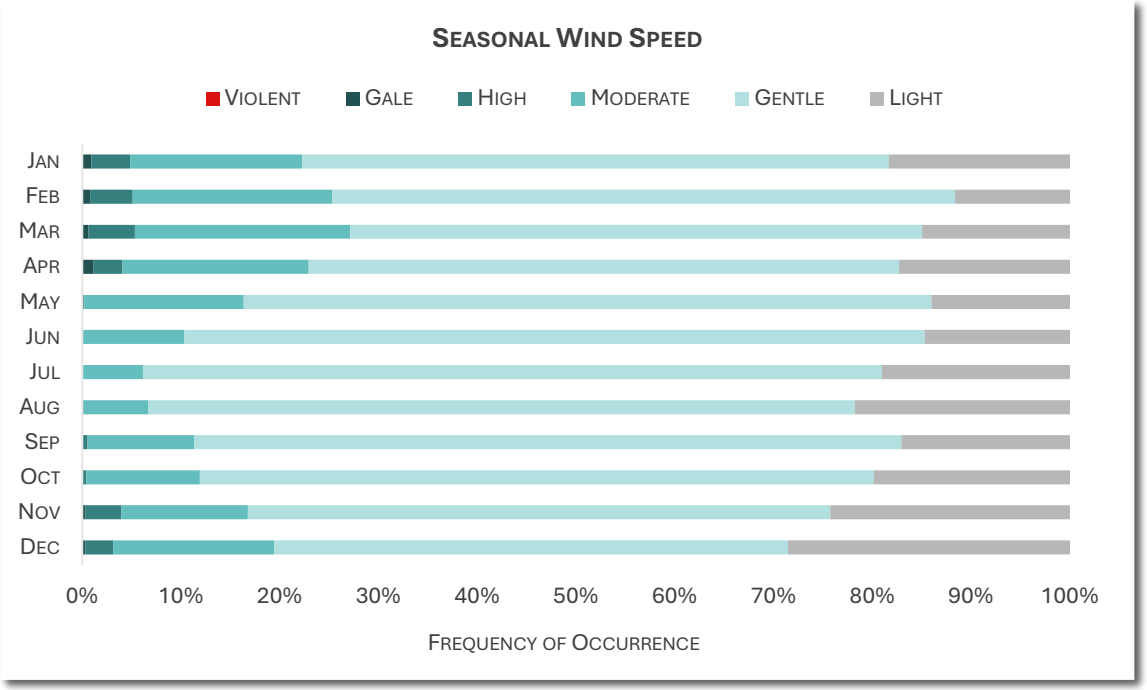
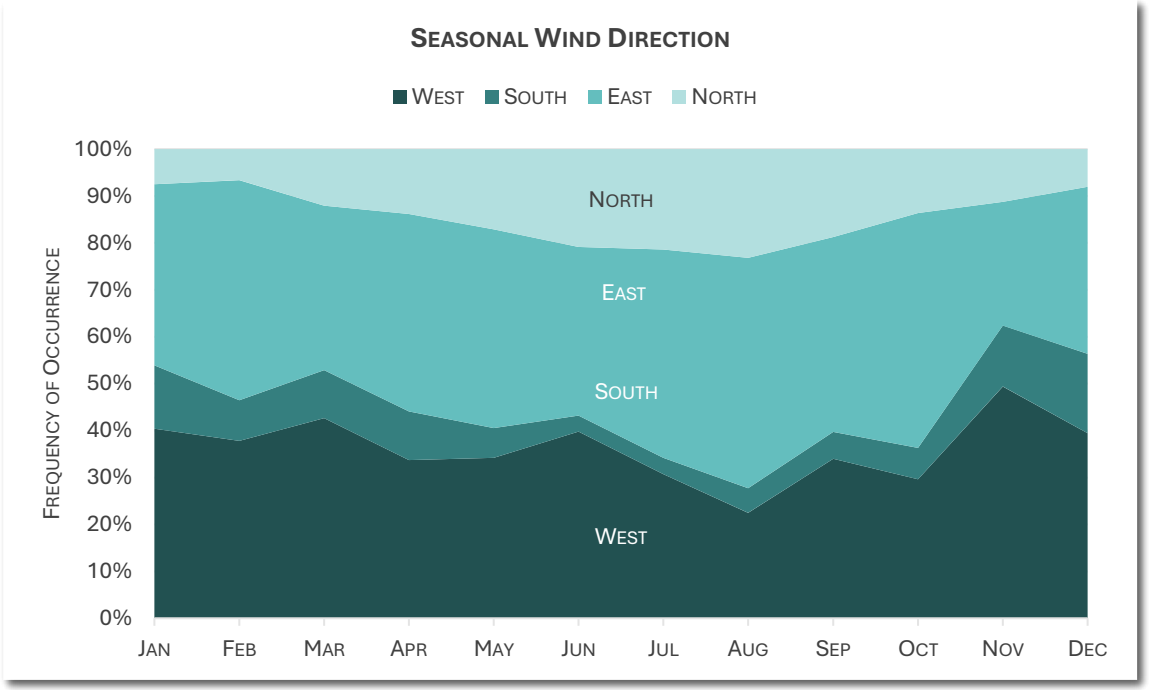
Port of Nador , Morocco

Gentle to light winds have been observed at Nador Port, primarily from the west and east between April and October.

These conditions impact maritime operations, leading to average delays of approximately 2 days, with extreme cases reaching up to 6 days.

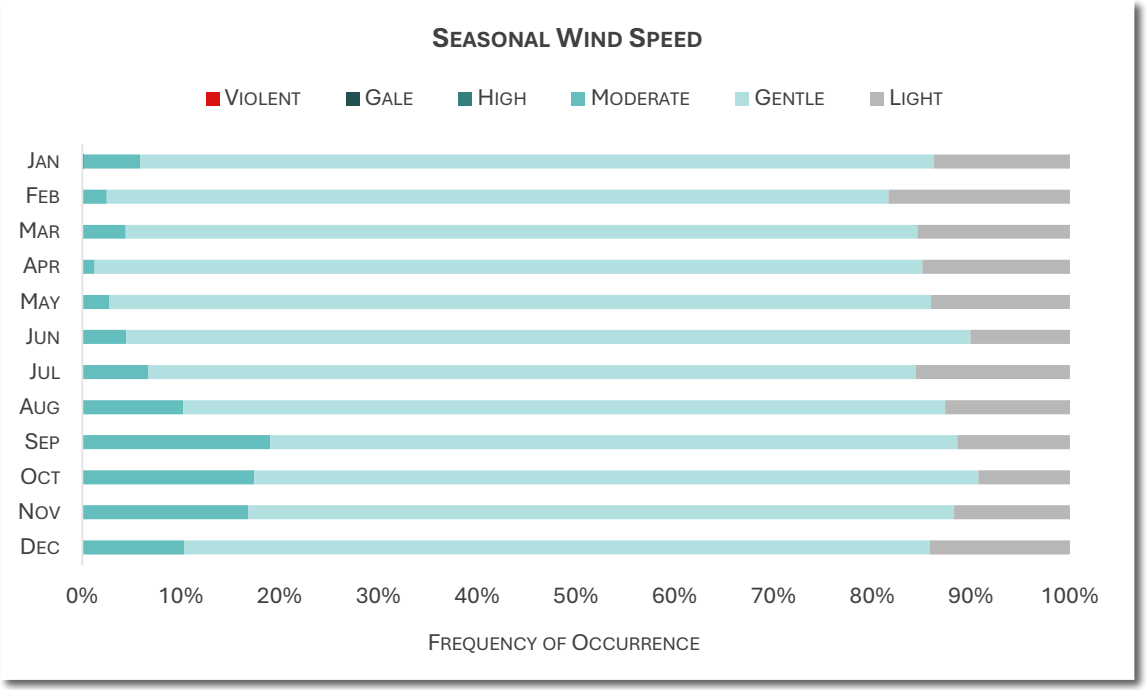


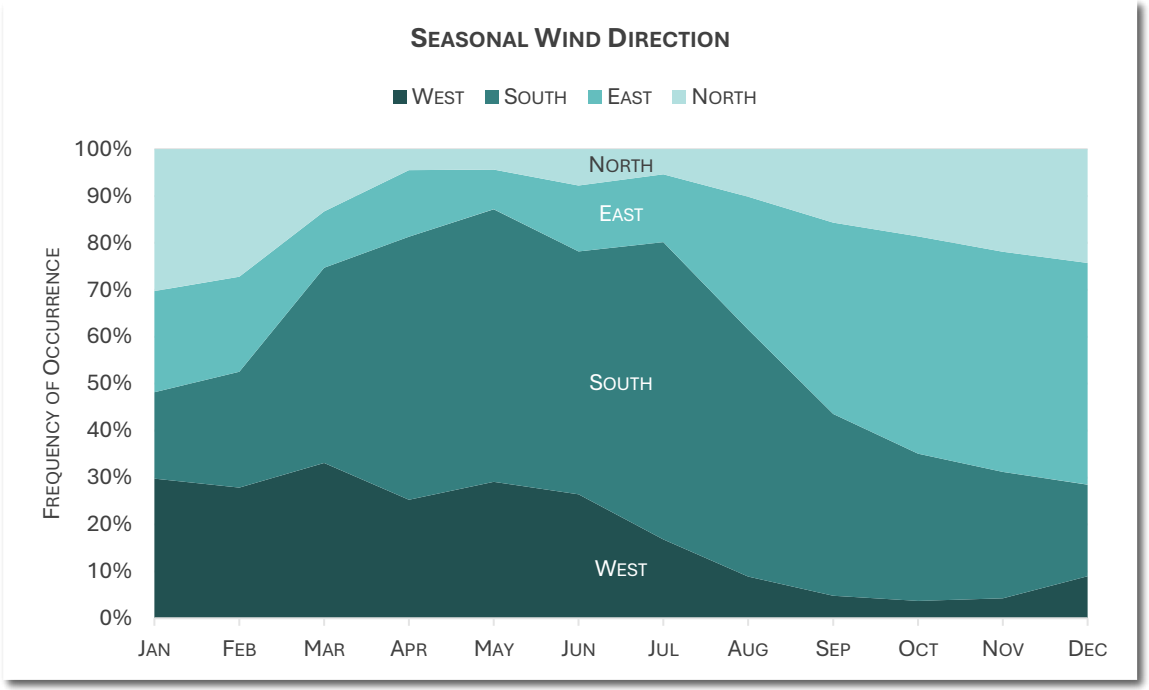


Port of Moma , Mozambique

Barge operations will stop if winds exceed 20 knots and swell is over 1.8m. This also causes congestion with cargo delivery barges. Observed delays are most common March - August.

It is observed that when delays occur it can often exceed 5 days and up to a maximum of 30 days.



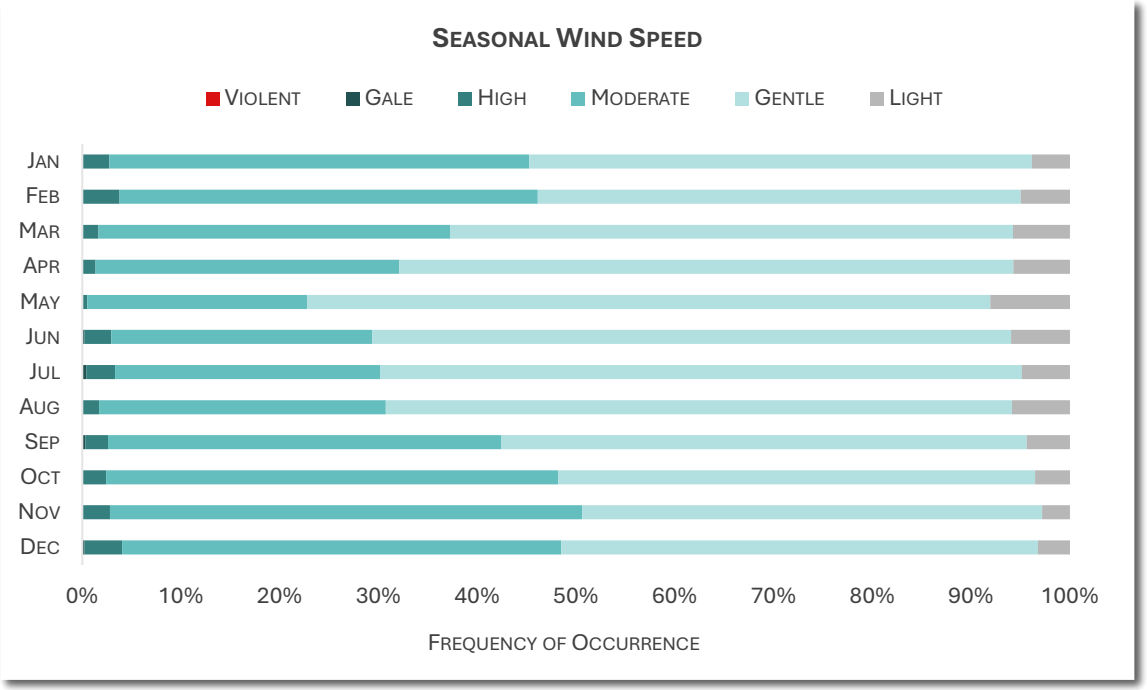


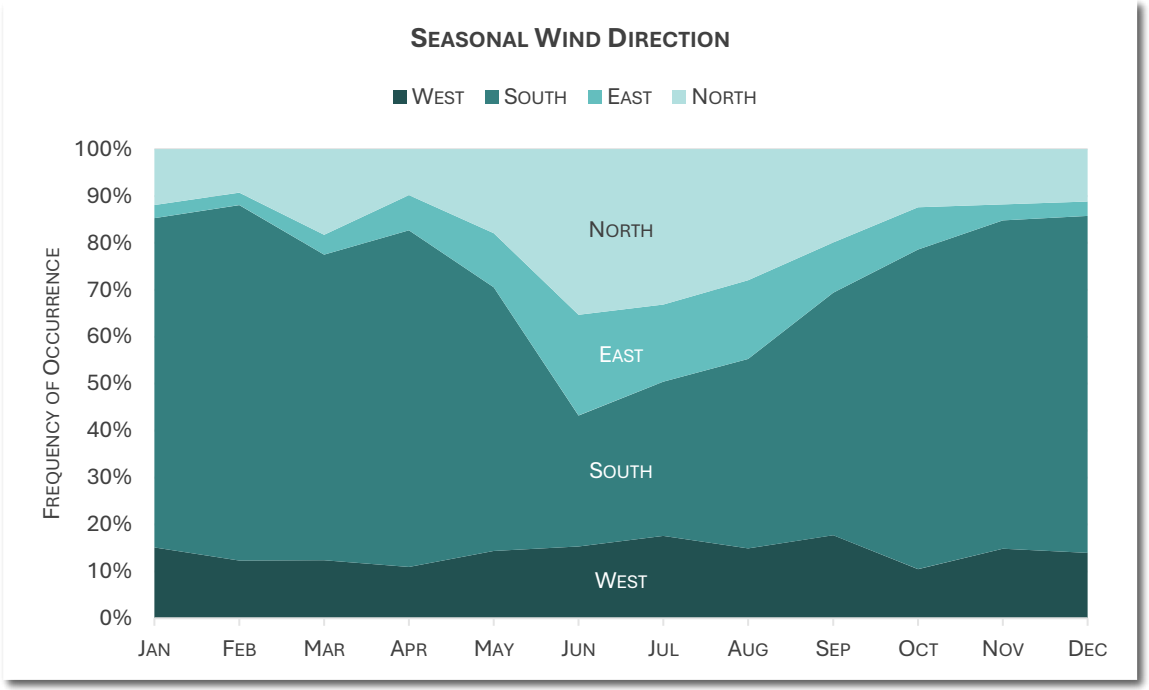
Port of Saldanha Bay , South Africa

PortLog

Saldana port experiences moderate wind conditions year-round, with the strongest occurrences observed between October and March.

Gentle to moderate winds from the south often cause operational delays, averaging roughly half a day, while instances up to 1.5 days have also been observed





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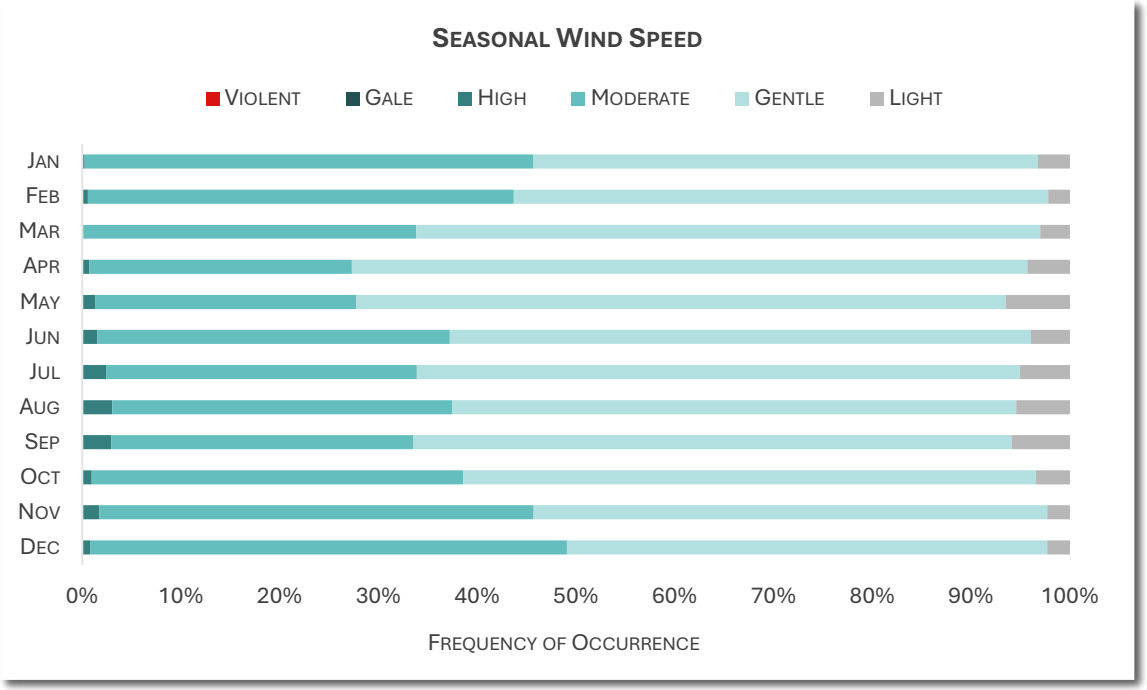
Australia & New Zealand

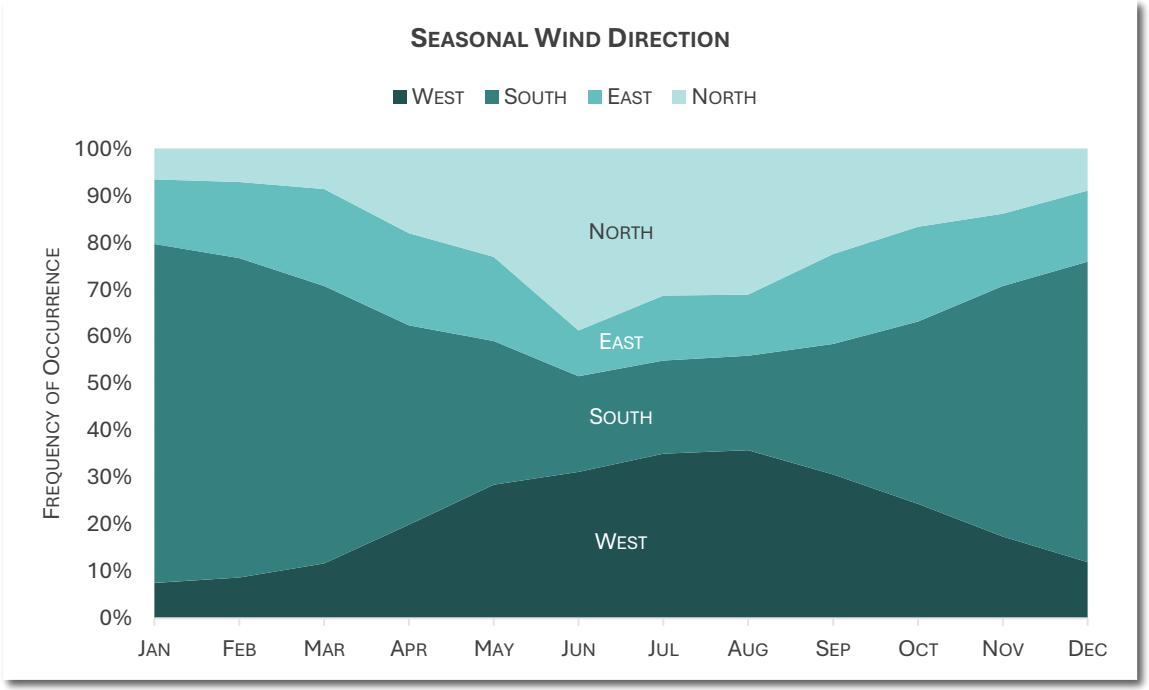
Port of Lucky Bay , Australia

PortLog

At Lucky Bay, moderate winds, mainly from the S-SW, have been observed for most of the year, with the most frequent occurrences between January and June.

These conditions often disrupt operations, resulting in stoppages averaging 1.5 days, with extreme cases reaching at least 5 days.





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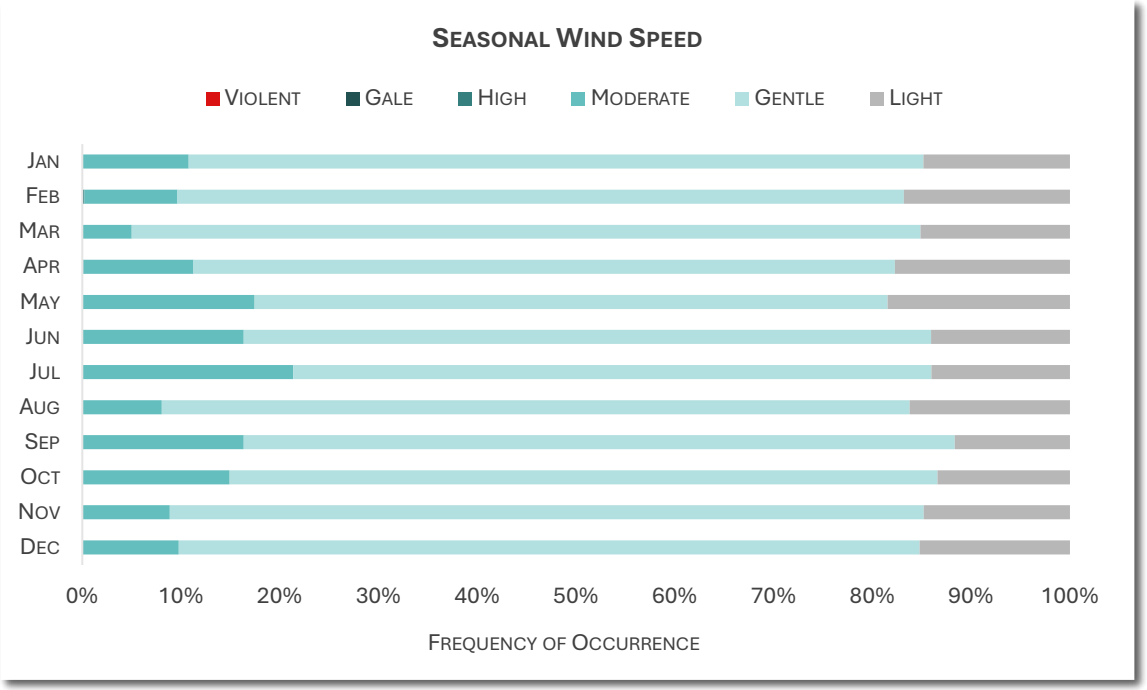
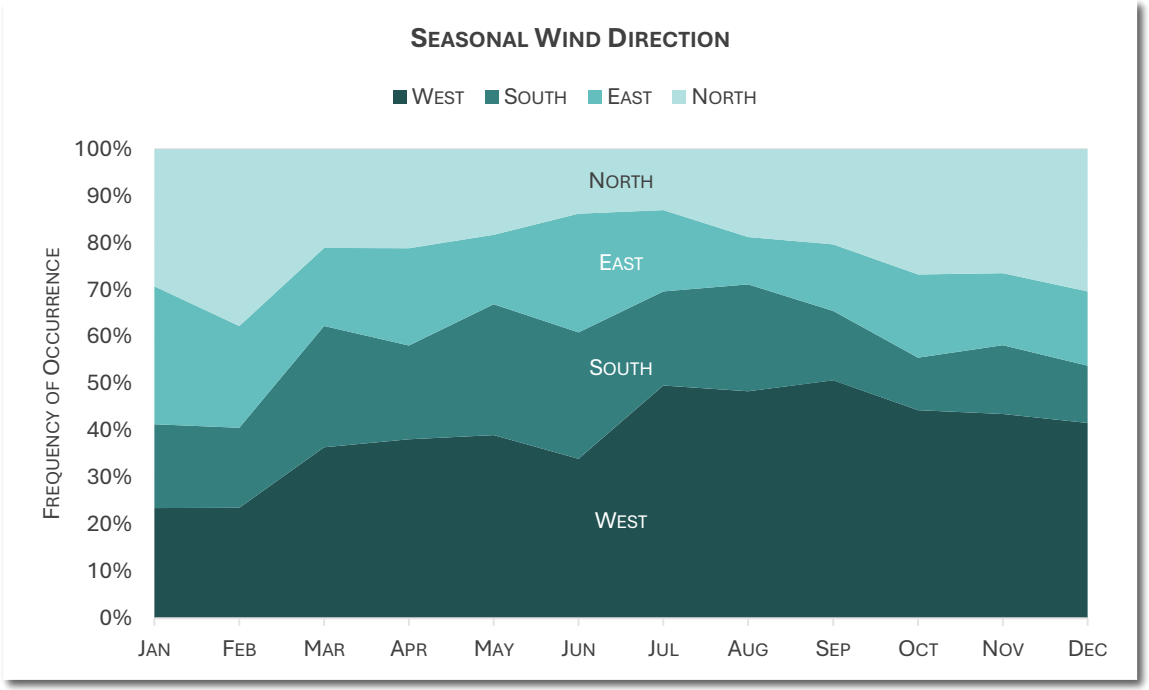
Port of Tauranga , New Zealand

PortLog

Tauranga is observed to experience gentle to moderate winds year-round, mainly from the west and southwest.

These conditions often cause port operation delays, typically averaging a little under a day, with some disruptions observed up to at least 3 days.





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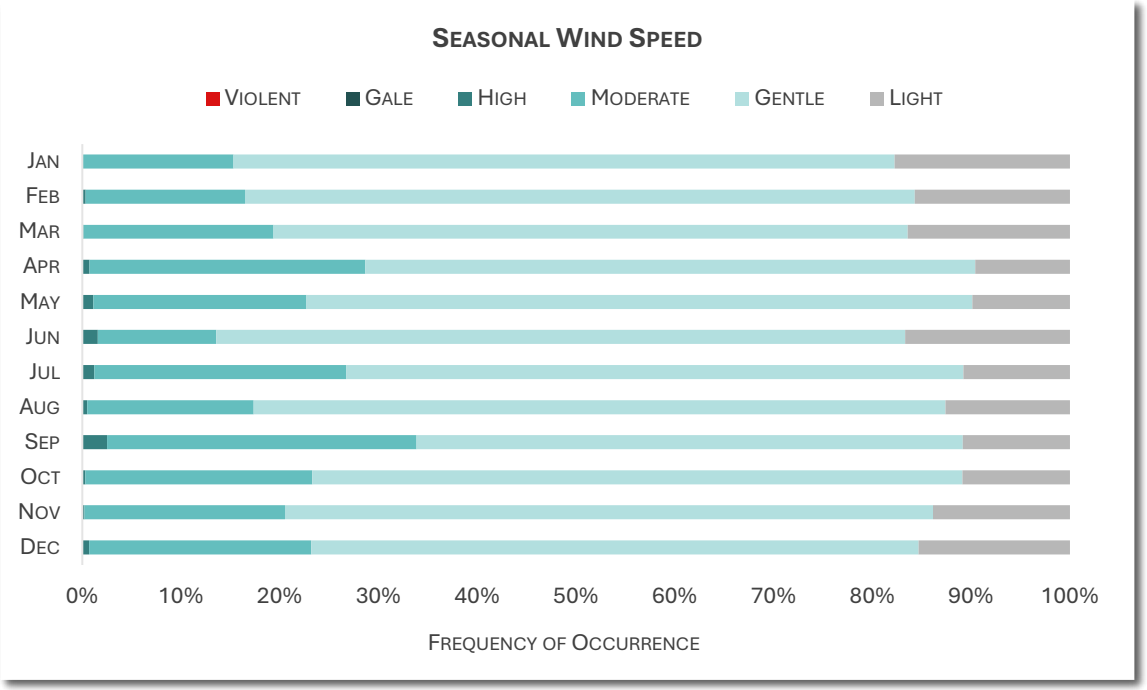
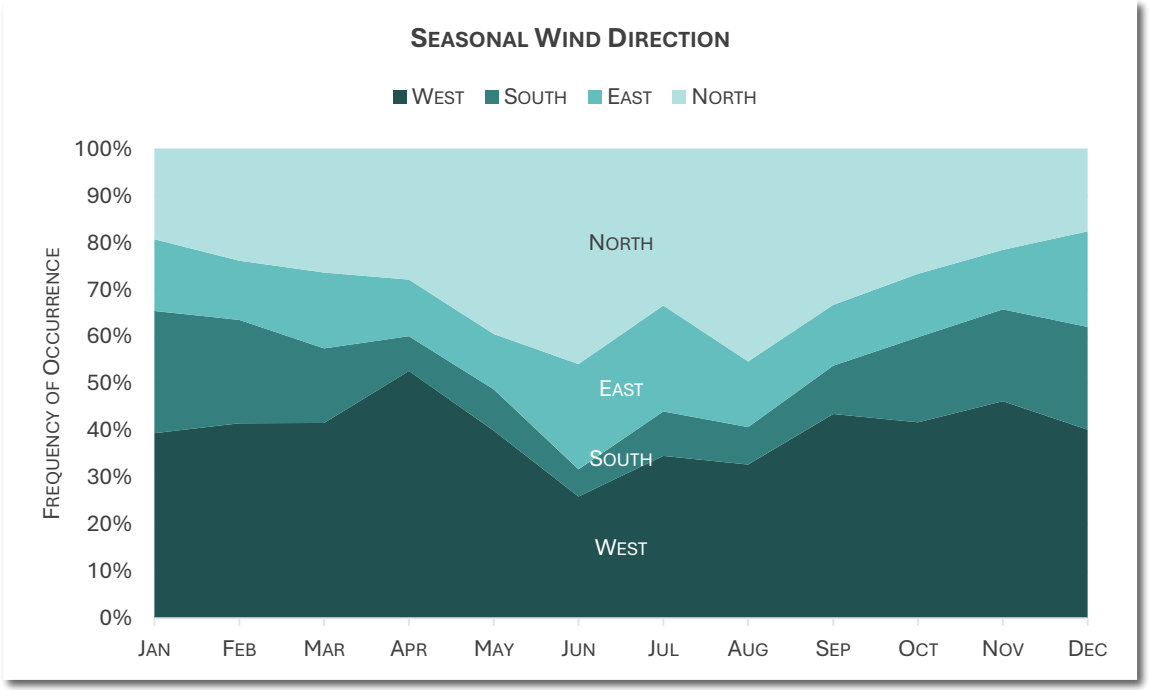
Port of Tiwai Point/Bluff Port , New Zealand

PortLog

Gentle to moderate winds are observed at the Port of Tiwai throughout the year, occasionally disrupting operations.
Stoppages are primarily observed while waiting for berth and during cargo operations, leading to an average delay of about half a day, with instance delays reaching up to two and a half days.





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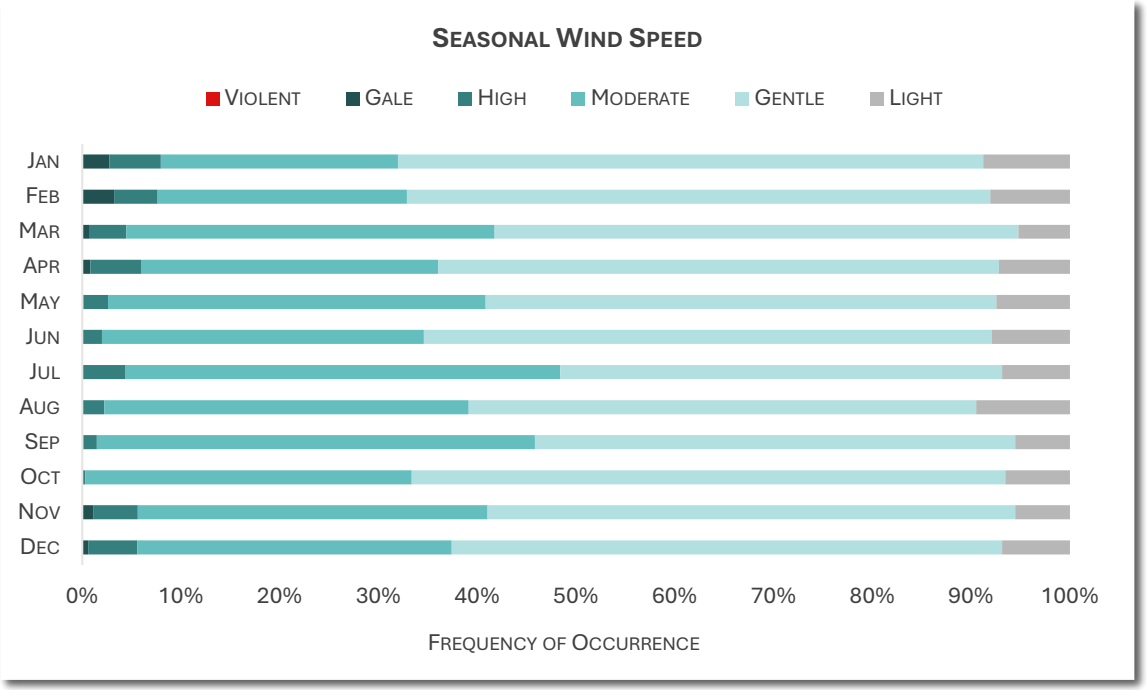
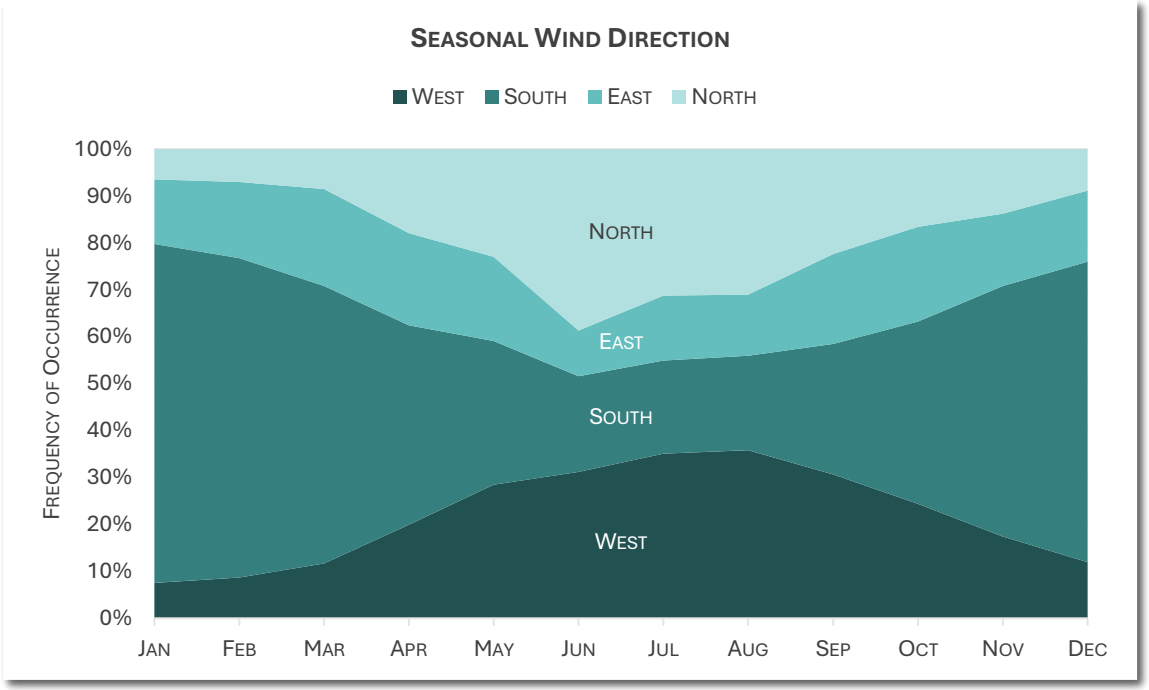
Port of New Plymouth , New Zealand

PortLog

New Plymouth port experiences gentle to moderate winds through most parts of the year, which intermittently disrupt cargo operations.

These stoppages have been observed to result in an average delay of roughly half a day, with some delays reaching up to two and a half days.





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China

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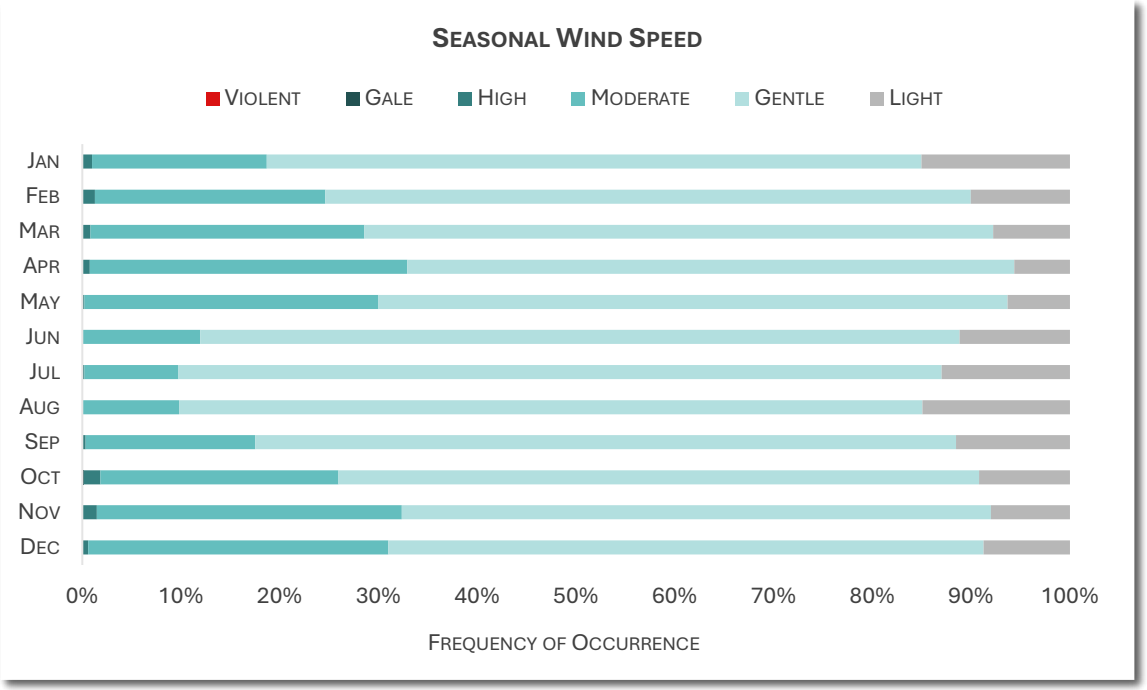
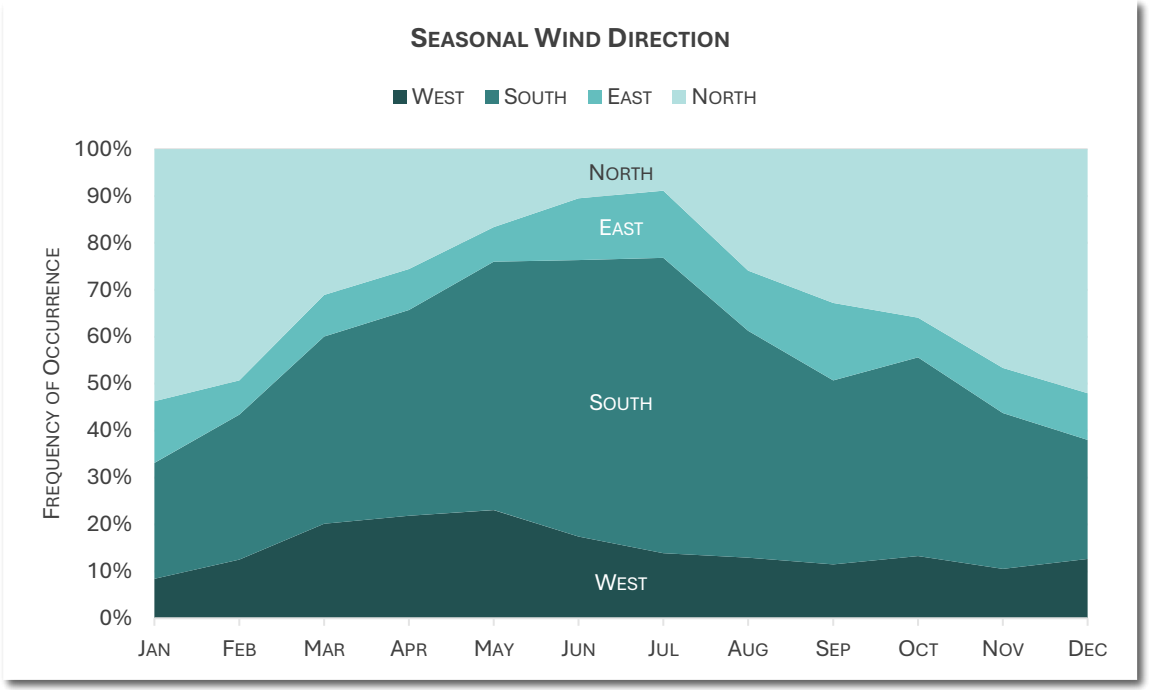
Port of Bayuquan , China

PortLog

Frequency and impact due to strong winds and dense fog is typical during Jan to March where pilot delays and disruption to cargo operations is commonly observed. While the impact due to bad weather is felt throughout the year causing a delay of at least 2 days, the maximum delay of at least 8 days is felt during January.

Consider adding a buffer of at least $50,000 for additional port captain expenses, towage, dockage, anchorage and a review of bad weather clause to protect against additional delays.





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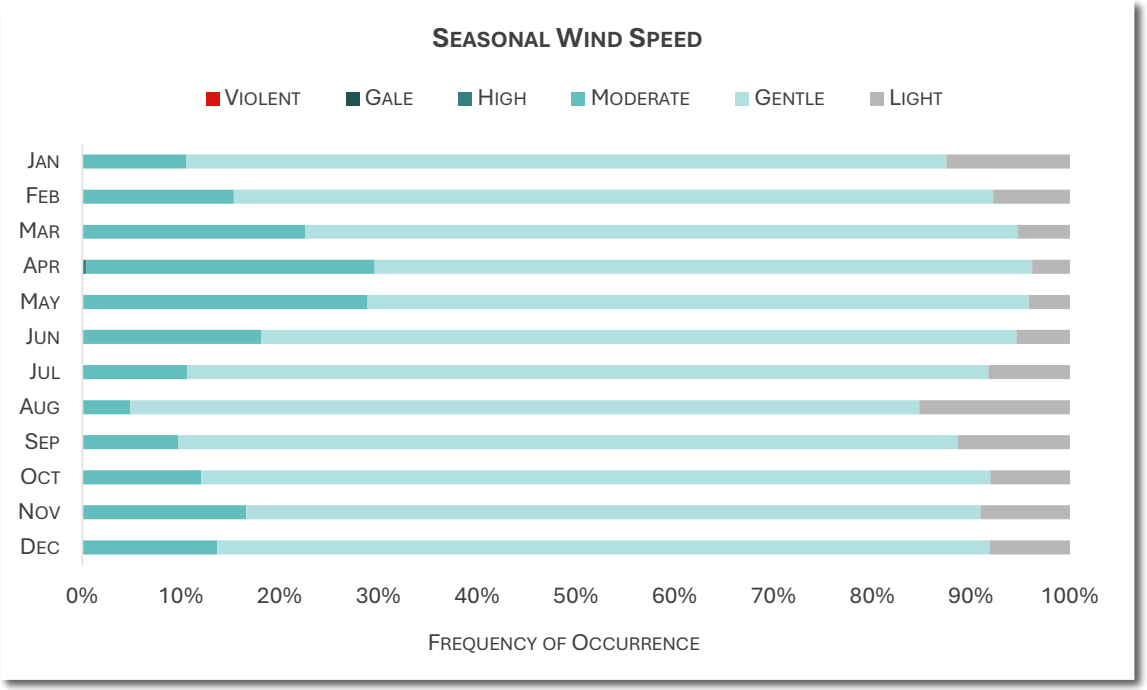
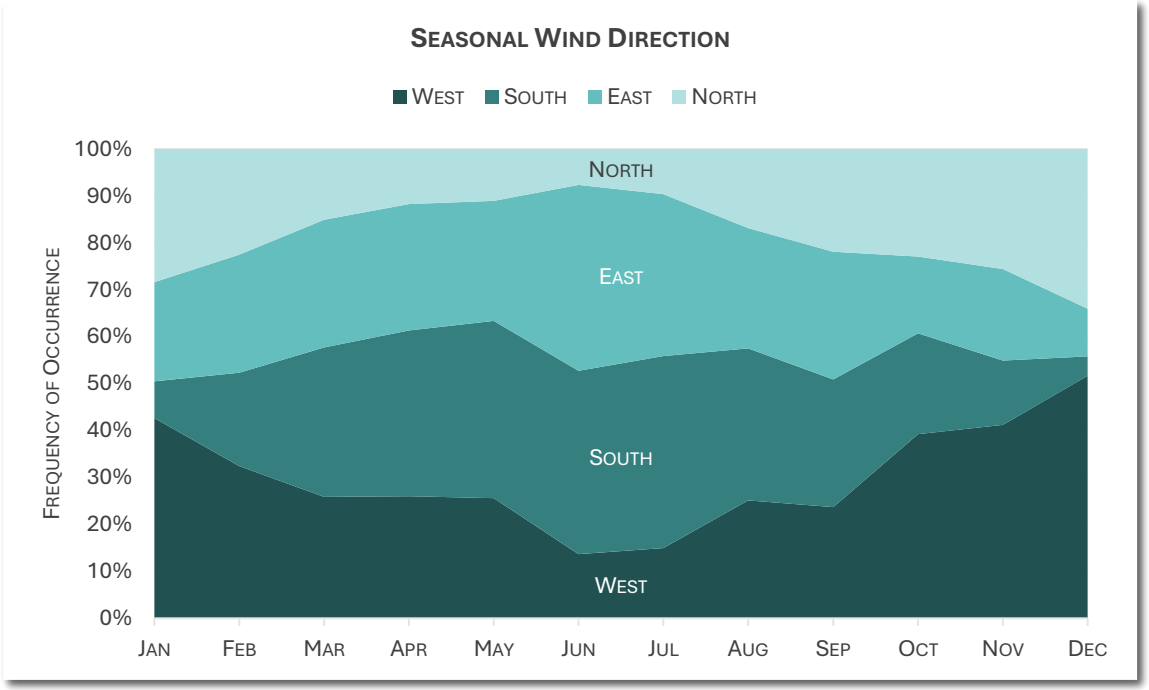
Port of Caofeidian , China

PortLog

Berthing or cargo operation delays due to strong northwest winds are typically significant from January to May, with delays averaging around one day but potentially extending up to a maximum of six days.





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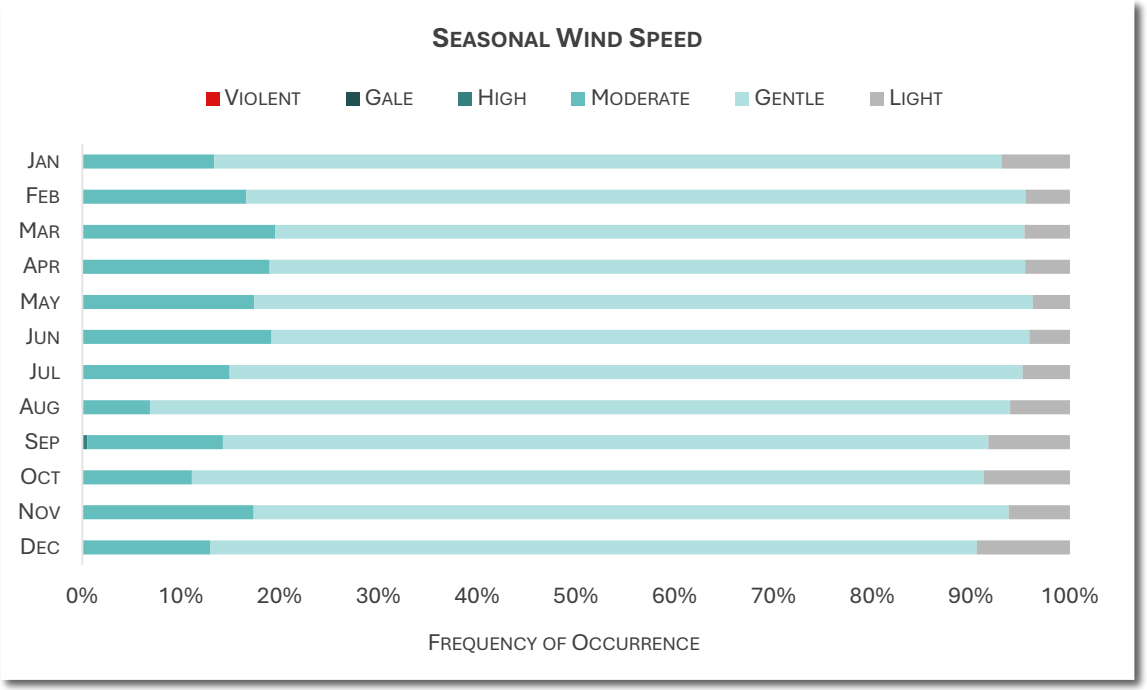
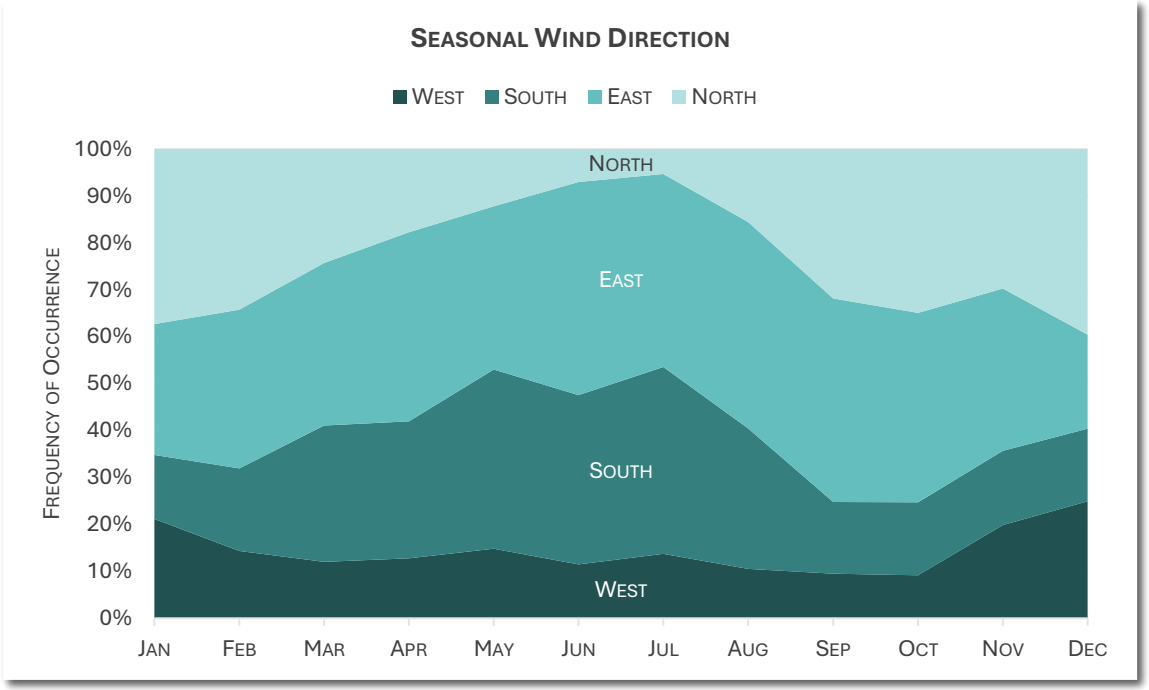
Port of Dafeng , China

From November to March, strong gale-force winds and large waves caused by cold currents can impact operations.
As a result, vessels may experience berthing delays and may need to shift to anchorage during cargo operations, leading to average delays of 7 days, with a maximum of 23 days.

Additional shifting costs due to these conditions can reach up to $5,000 USD.



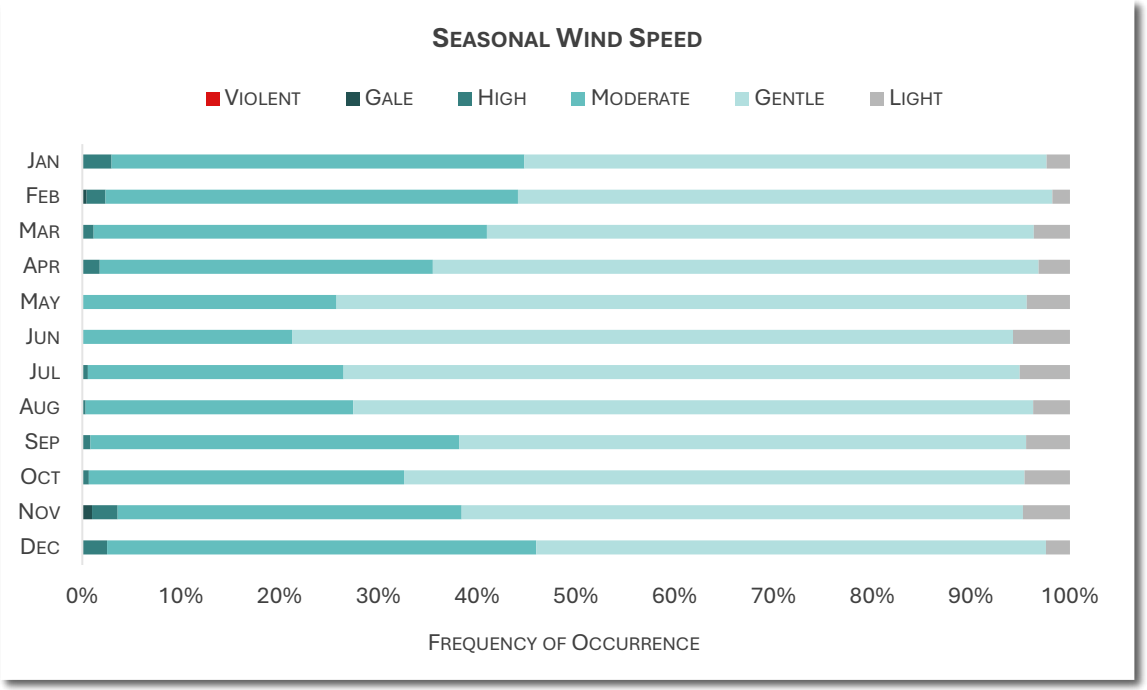


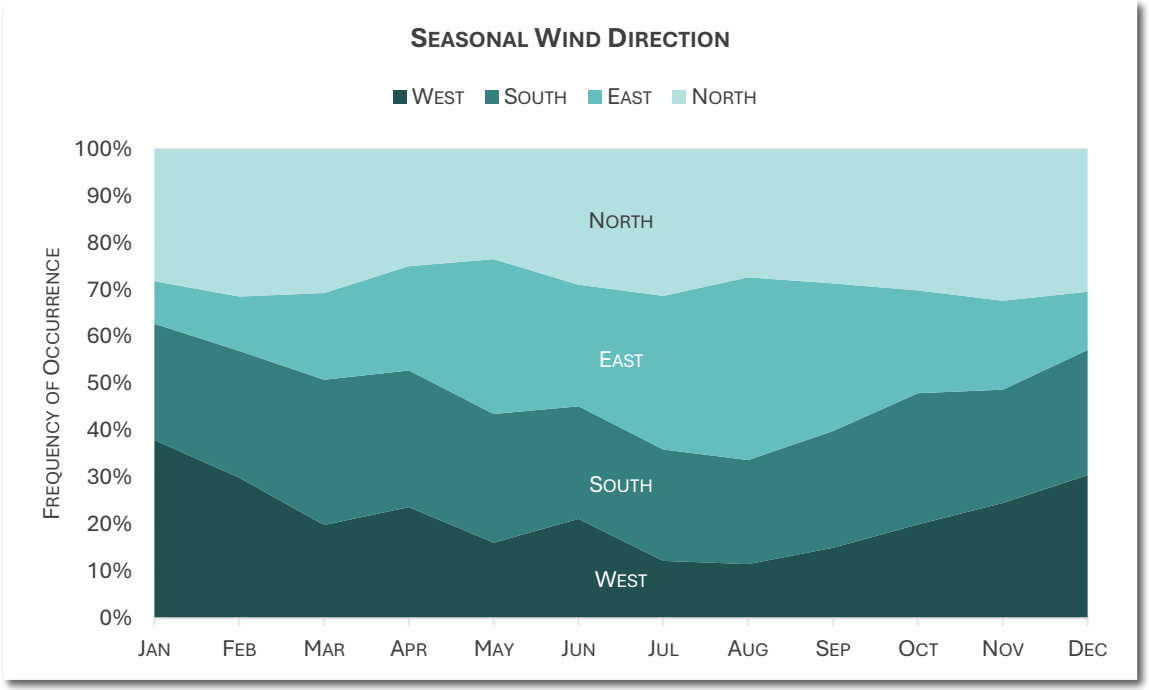
Europe

Port of Constanta , Romania

PortLog

Port closures are common throughout the year. This is due to strong winds and dense fog. Usually, strong winds are accompanied by rain.





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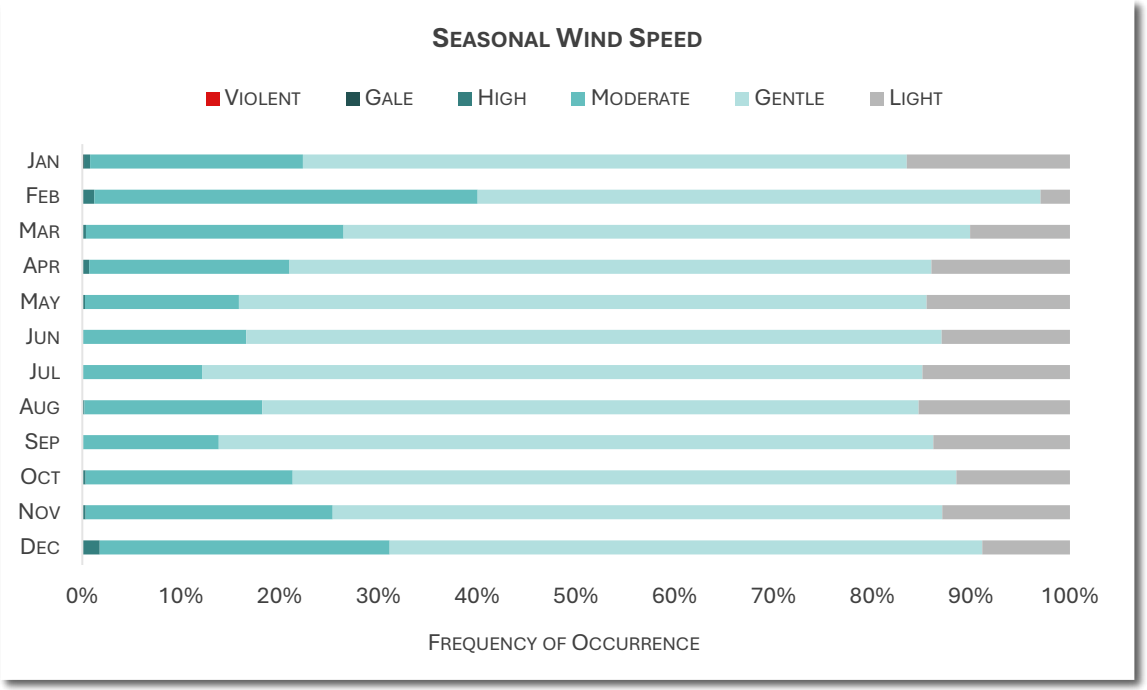
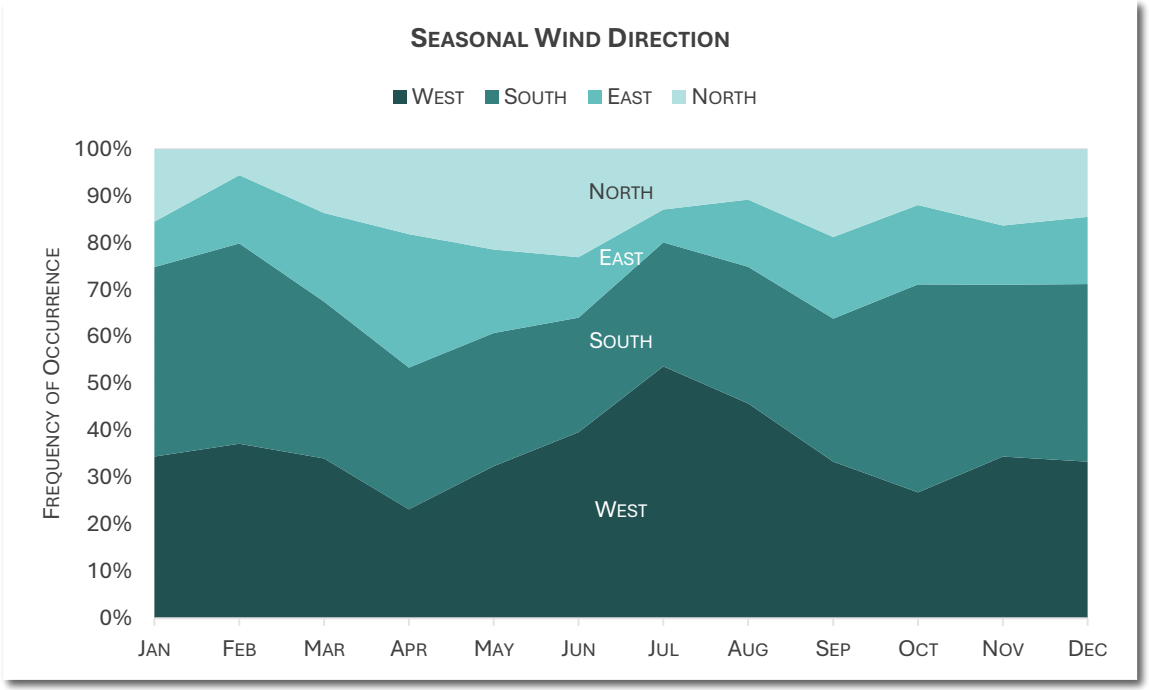
Port of Aughinish Island , Ireland

The windiest periods are observed nearly year-round. On average, there is a one-day delay, during which cargo operations may be disrupted.

If possible, it is recommended to consult with agents regarding seasonal patterns when scheduling, to stay informed about potential risks at this port that could lead to significant delays.

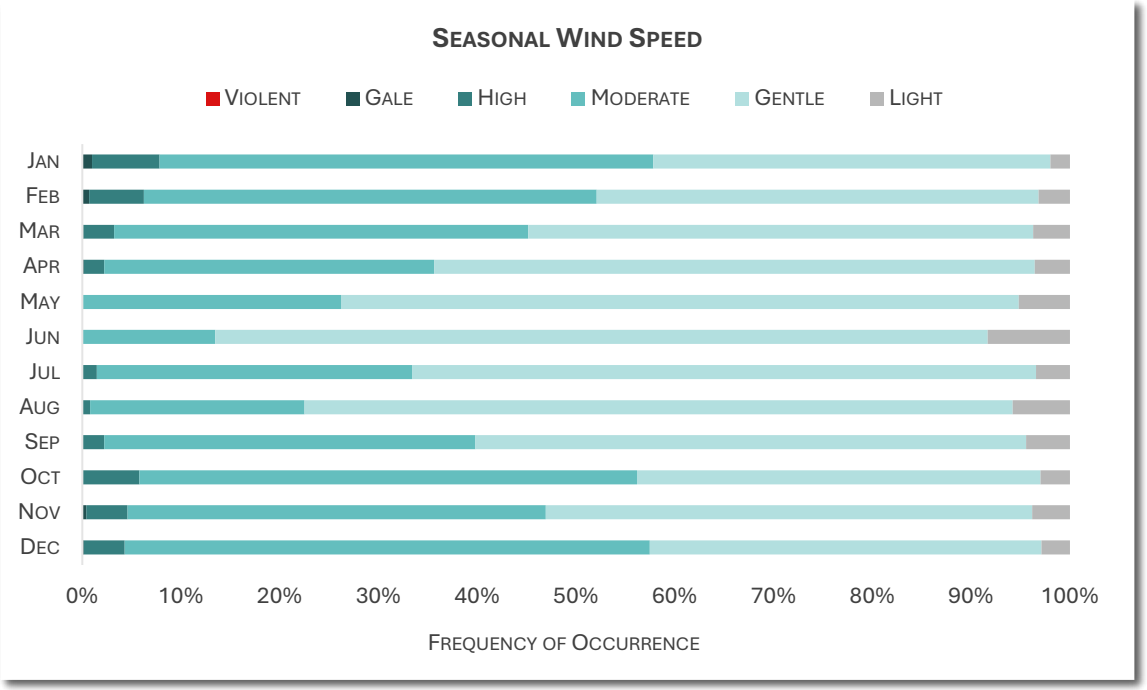


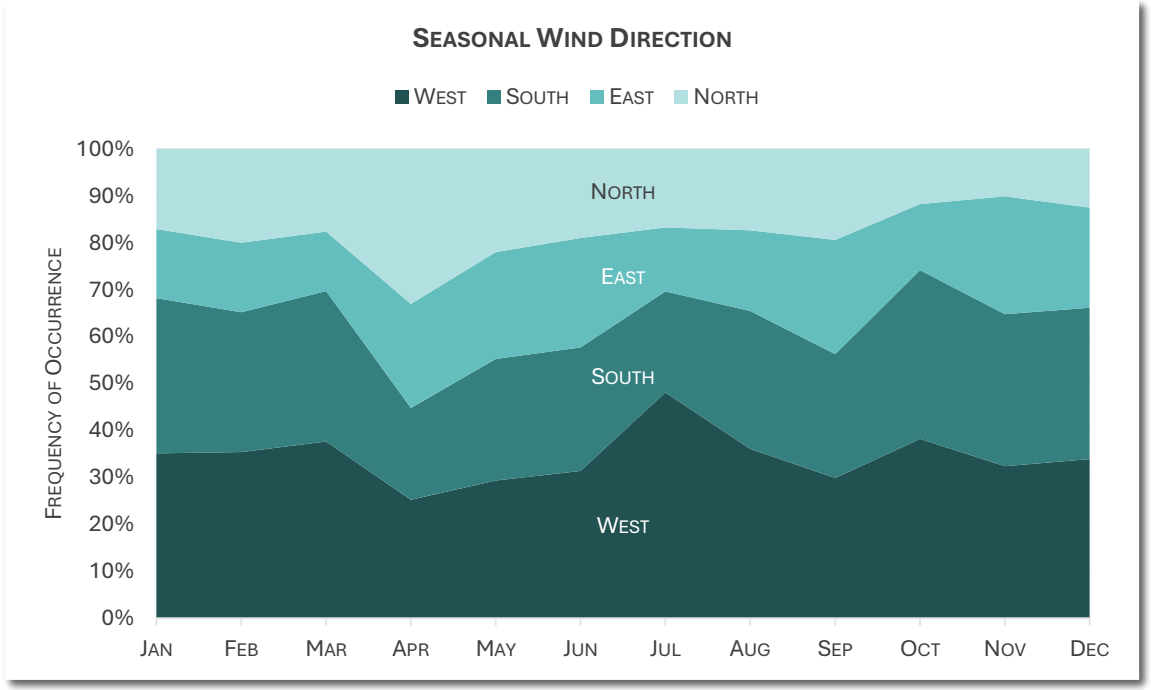


Port of Liepaja , Latvia

Strong wind conditions have been observed at Liepaja, particularly from October to January, frequently disrupting operations.

These conditions lead to delays averaging 1.5 days, with extreme cases extending up to 7 days, affecting cargo operations





Wind delay Concerns & Mitigations

Mooring Ropes

- If mooring ropes break, it is the responsibility of the charterers to promptly replace the damaged ropes at their own risk and expense.
- The charterers are also required to arrange and cover the expenses for any additional hire of mooring ropes, as well as replace any snapped or broken mooring ropes.

Laytime / additional costs & tugs

- During the port closure, laytime will be split equally between owners and charterers, and any lost time or costs due to swell will be shared 50/50.
- NOR may be submitted from the waiting area, and laytime will still apply if the vessel cannot sail.
- Should the master determine it necessary to have a pilot and/or tug on standby while berthed alongside, the charterers will be responsible for covering the associated expenses.

Vessel Damages

- The charterers will be held liable for any damages incurred by the vessel or berth as a result of swell.
- The Port Captain and/or charterers' agent will take all necessary actions to move the vessel away from the wharfs and terminals and out to sea.

Note: this is not to be considered in any way as legal advice or input from Marcura, but merely as observations of industry practice.

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