

Project 1: Data Analysis of Singapore Rainfall [Impact on Food Delivery]

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Problem statement

Food delivery affected by rain in Singapore, especially heavy rain.

Analyse weather patterns in Singapore to identify what strategies the food delivery company can adopt to better manage rainy weather.

Problems:



Food orders



Delivery riders



Delivery delays

Manage through:

Expected delivery times

Peak charges

Delivery completion incentives

Methodology

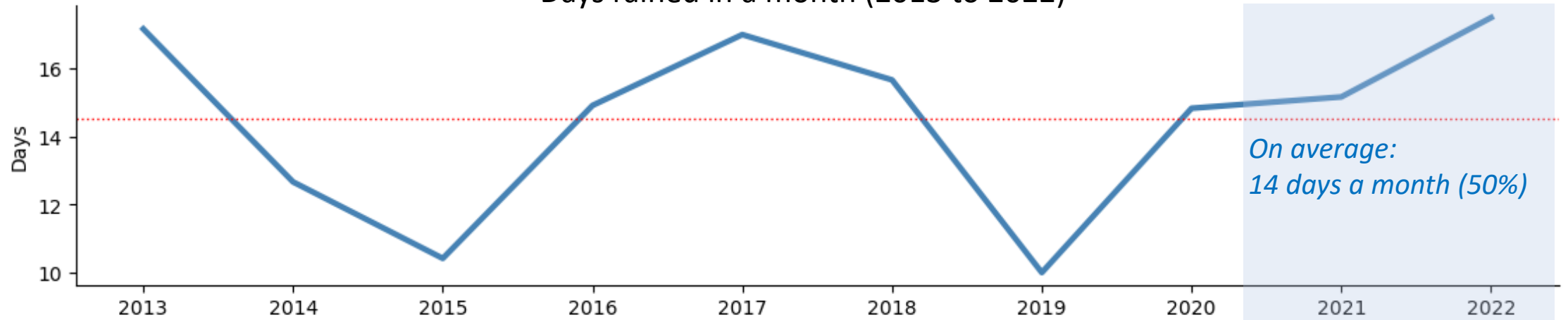
10 year rainfall data

- days rained / rain vol
- by year / month

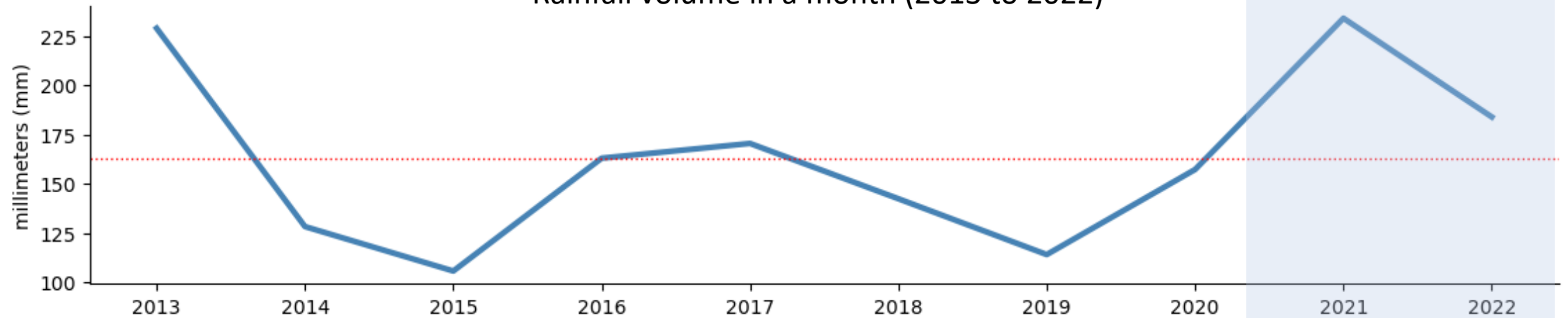
2 year **heavy** rainfall data

- days rained
- by month / region

Days rained in a month (2013 to 2022)

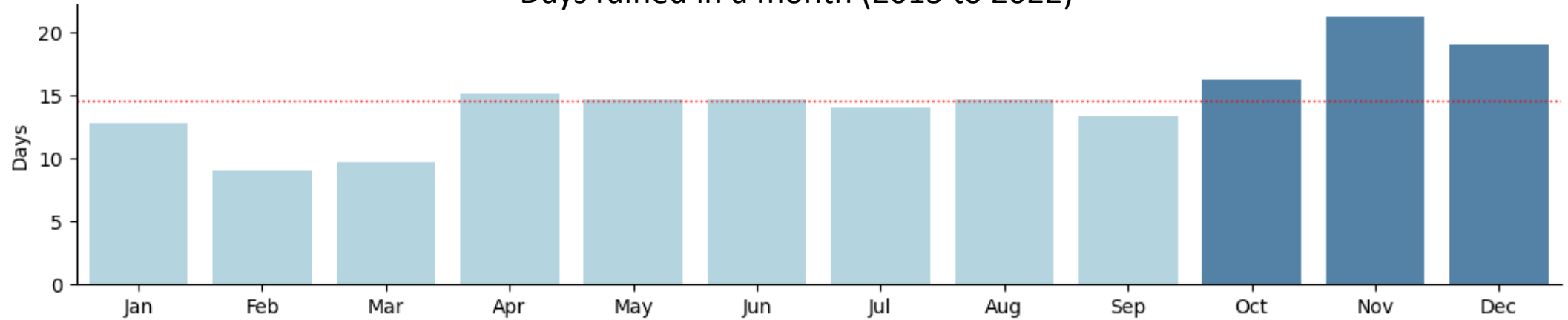


Rainfall volume in a month (2013 to 2022)

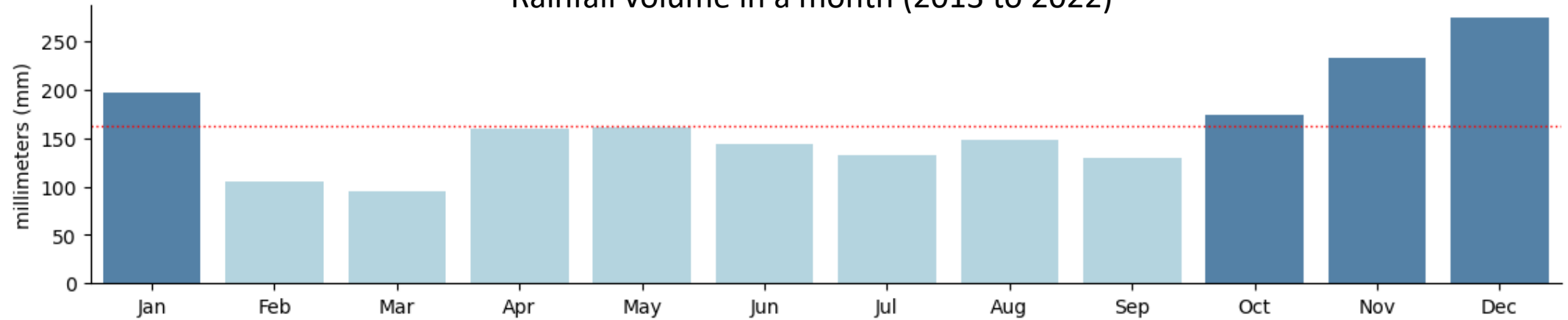


*Higher than average
rainfall in 2021 and 2022*

Days rained in a month (2013 to 2022)

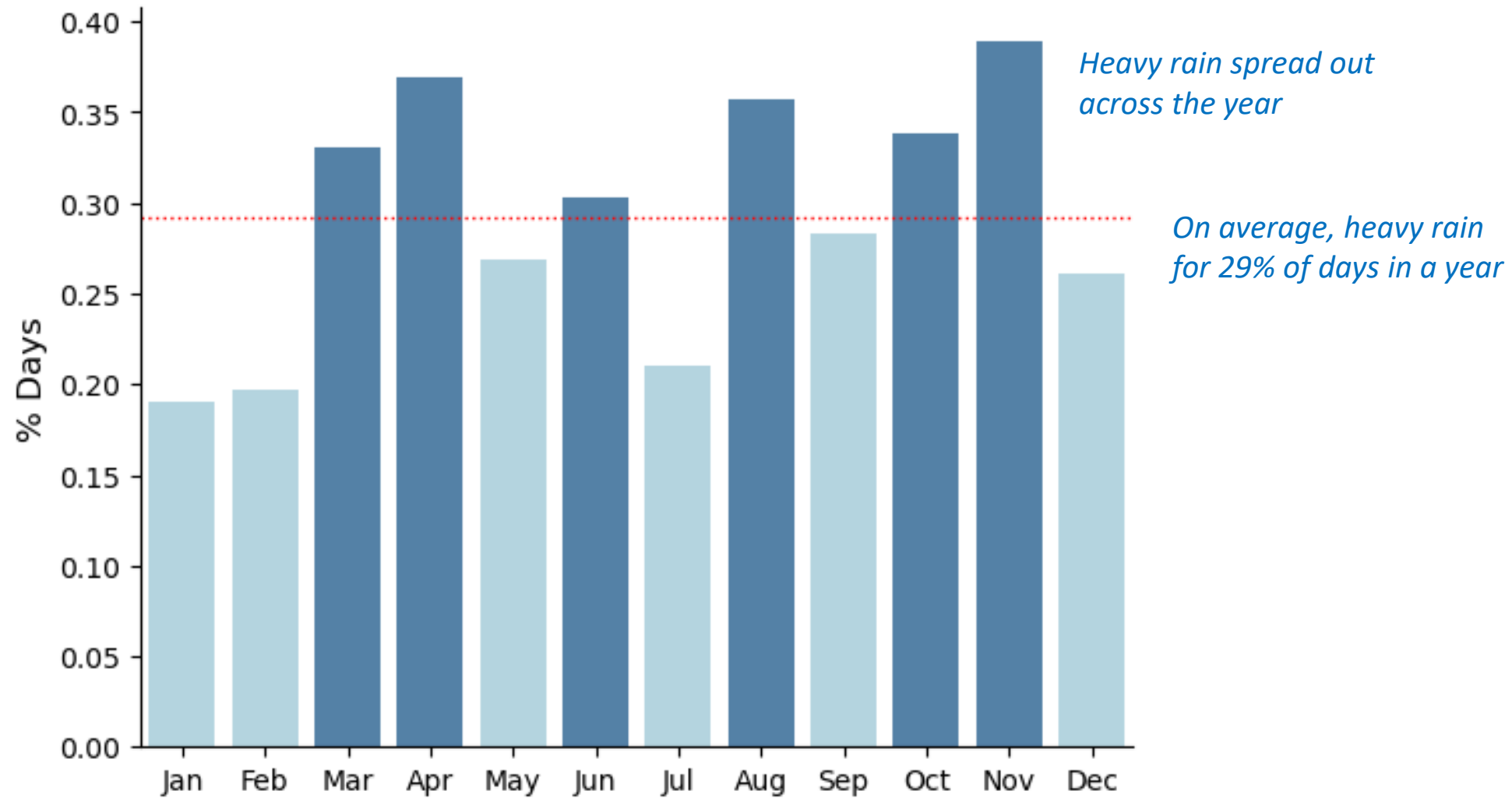


Rainfall volume in a month (2013 to 2022)

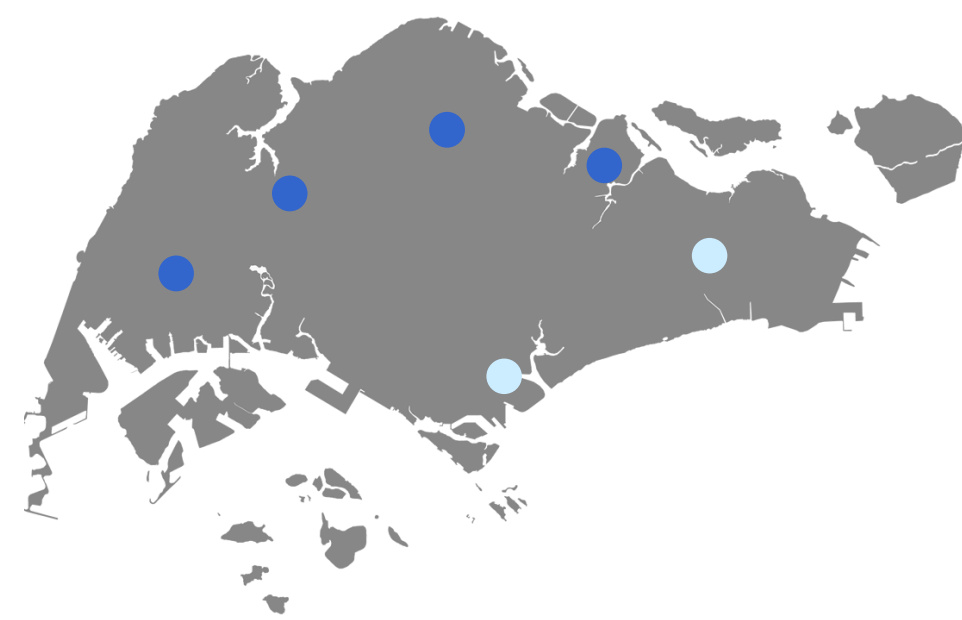
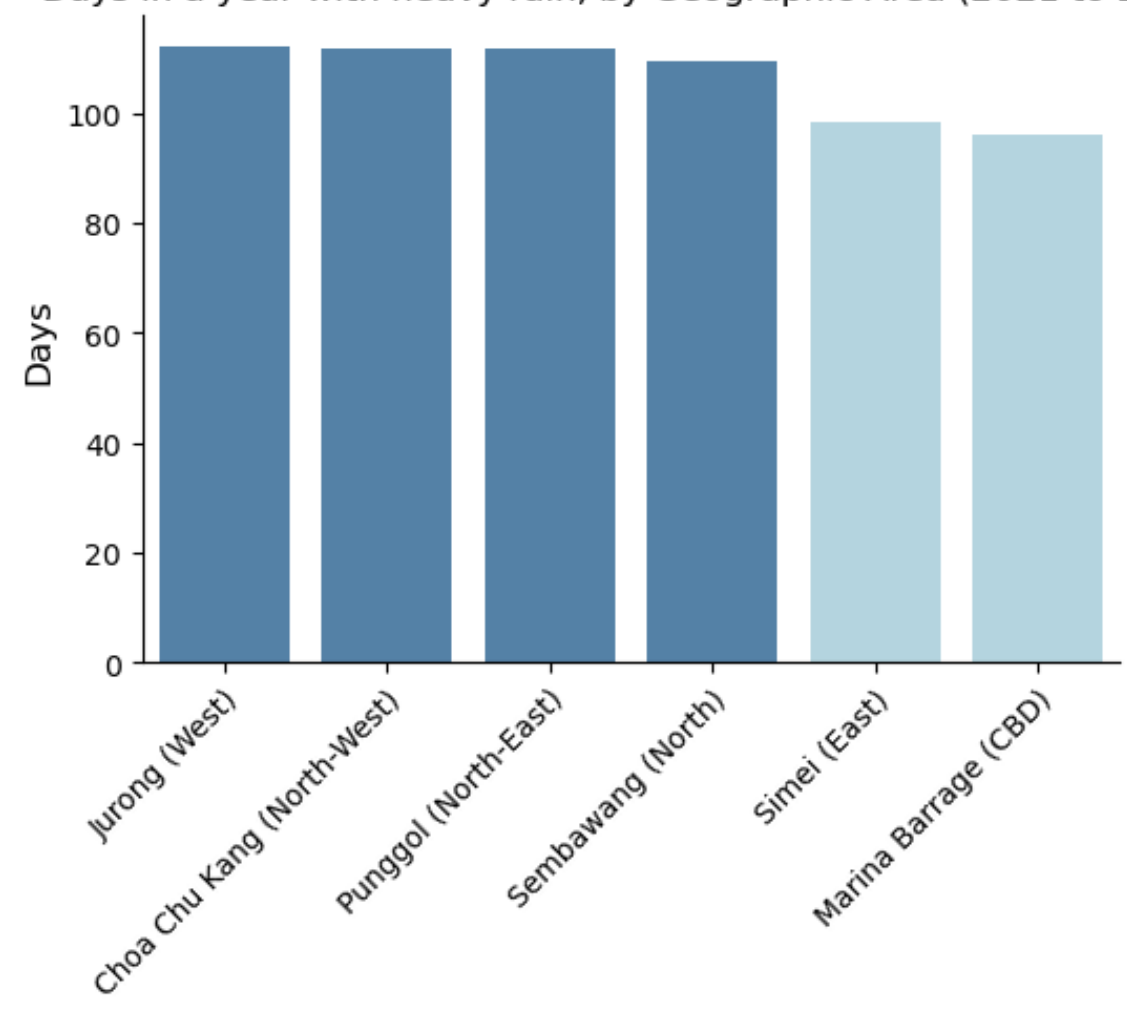


*Higher than average
in Oct to Jan*

% of days with **heavy rain** (2021 to 2022)



Days in a year with heavy rain, by Geographic Area (2021 to 2022)



Slightly more days of heavy rain in the North, West and North-East compared to the South and East

Recommendations

Expect higher than average rain in 2023

Plan and manage from Oct to Jan:

- Set longer expectations for delivery times
- Less marketing promotions
- More recruitment efforts
- Better delivery completion incentives

Expect heavy rain throughout year:

- More detailed information collection
- Identify real-time rain durations and intensity
- Set peak charges and delivery time expectations

Consider some residential areas have slightly higher rainfall