Snowzilla 2016

Analyzing the impact of the January 2016 blizzard on air travel

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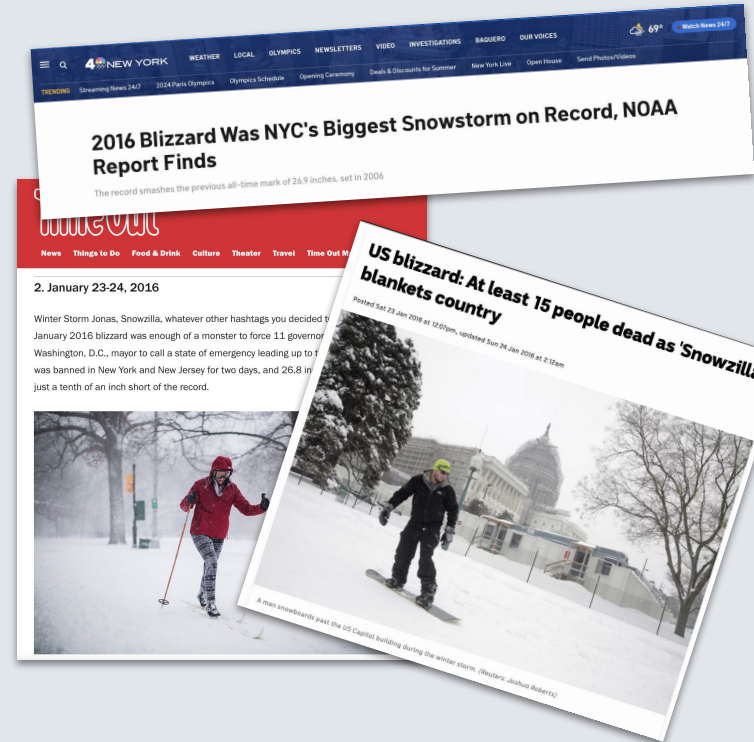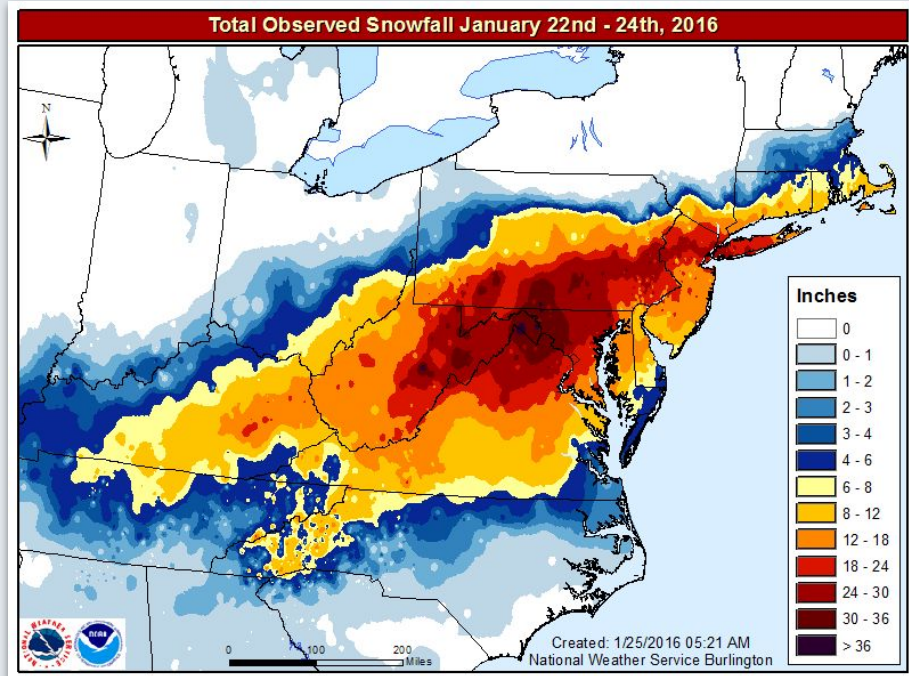4. Hypothesis 2
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Intro

"Winter Storm Jonas (Snowzilla): combination of heavy snow and strong winds led to travel chaos and significant power outages."

—CNN

The US east coast was heavily affected by the storm
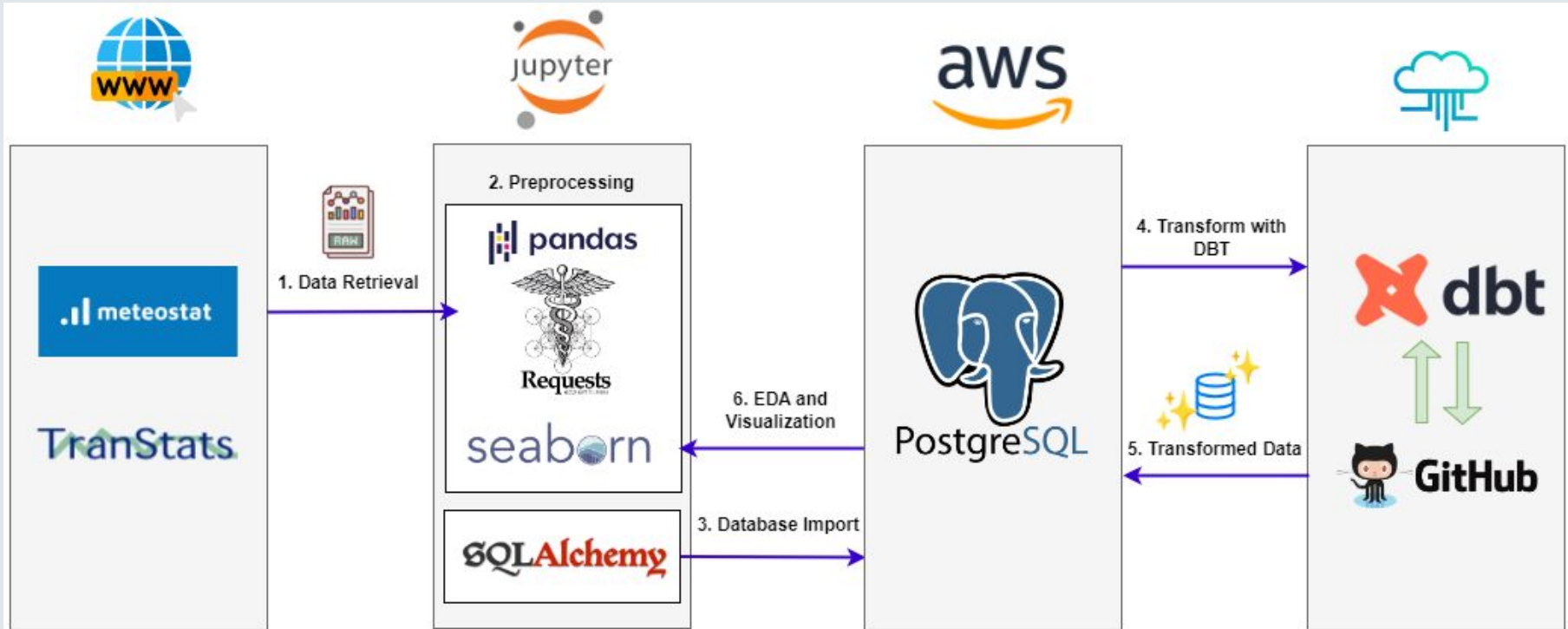
Inches of snow January 22nd - 24th, 2016

Total Observed Snowfall January 22nd - 24th, 2016

Inches
- 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 6
- 6 - 8
- 8 - 12
- 12 - 18
- 18 - 24
- 24 - 30
- 30 - 36
- > 36

Created: 1/25/2016 05:21 AM
National Weather Service Burlington

2016 Blizzard Was NYC's Biggest Snowstorm on Record, NOAA Report Finds

The record smashes the previous all-time mark of 26.9 inches, set in 2006

2. January 23-24, 2016

Winter Storm Jonas, Snowzilla, whatever other hashtags you decided to January 2016 blizzard was enough of a monster to force 11 governor Washington, D.C., mayor to call a state of emergency leading up to was banned in New York and New Jersey for two days, and 26.8 in just a tenth of an inch short of the record.

US blizzard: At least 15 people dead as 'Snowzilla' blankets country

Posted Sat 23 Jan 2016 at 12:07pm, updated Sun 24 Jan 2016 at 2:12am

A man snowboards past the US Capitol building during the winter storm. (Reuters: Joshua Roberts)

02

Behind the scenes (tech. stuff)

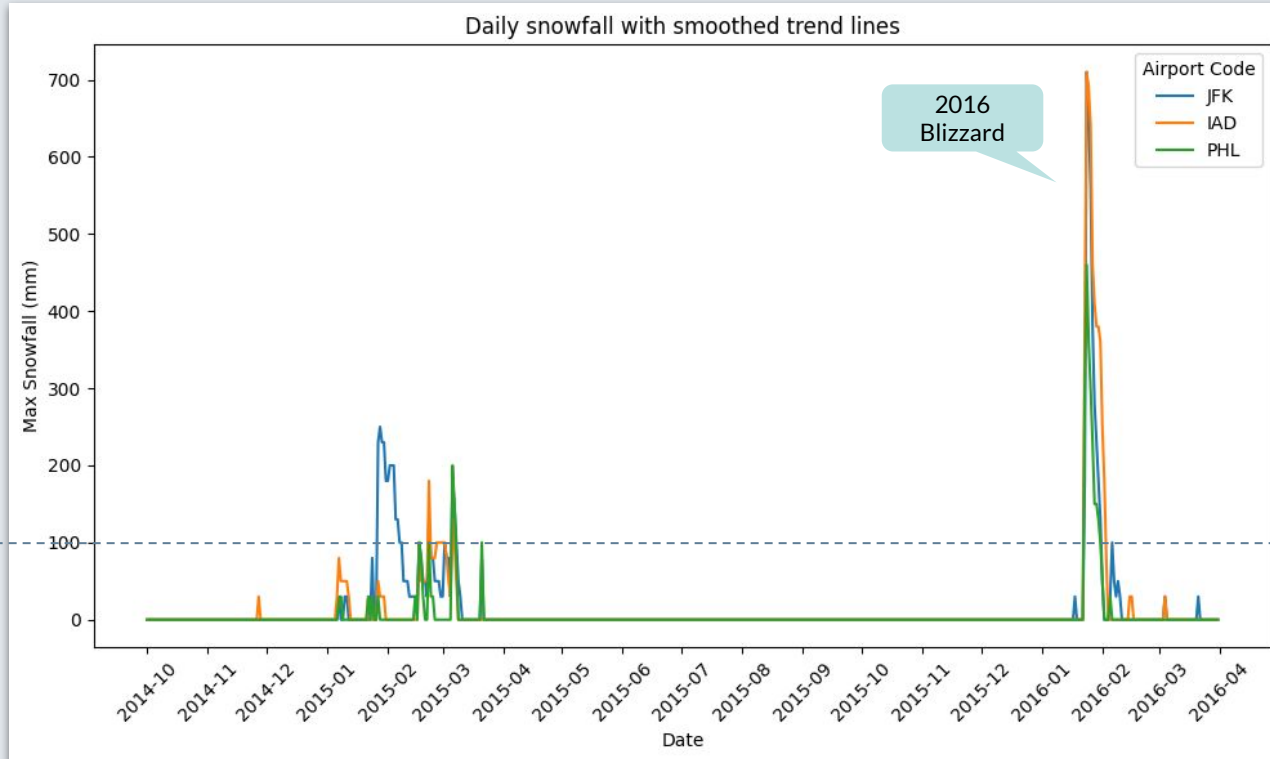# Workflow Overview

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Hypothesis 1

Can we see the weather
event in the flights data?

Extreme amount of snowfall during January 2016
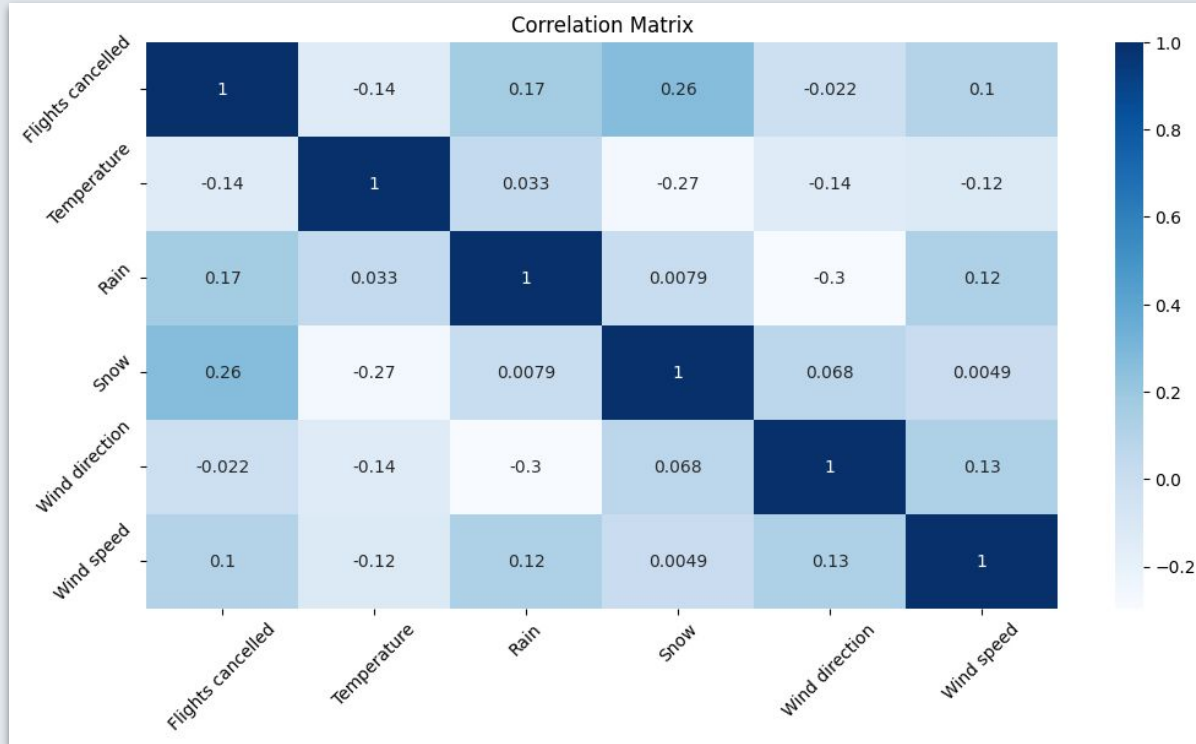## Snowfall in the winters of 2014-2016

Heavy snow

'normal' snow

Snow is correlated with flight cancellations, some other variables do not seem to be
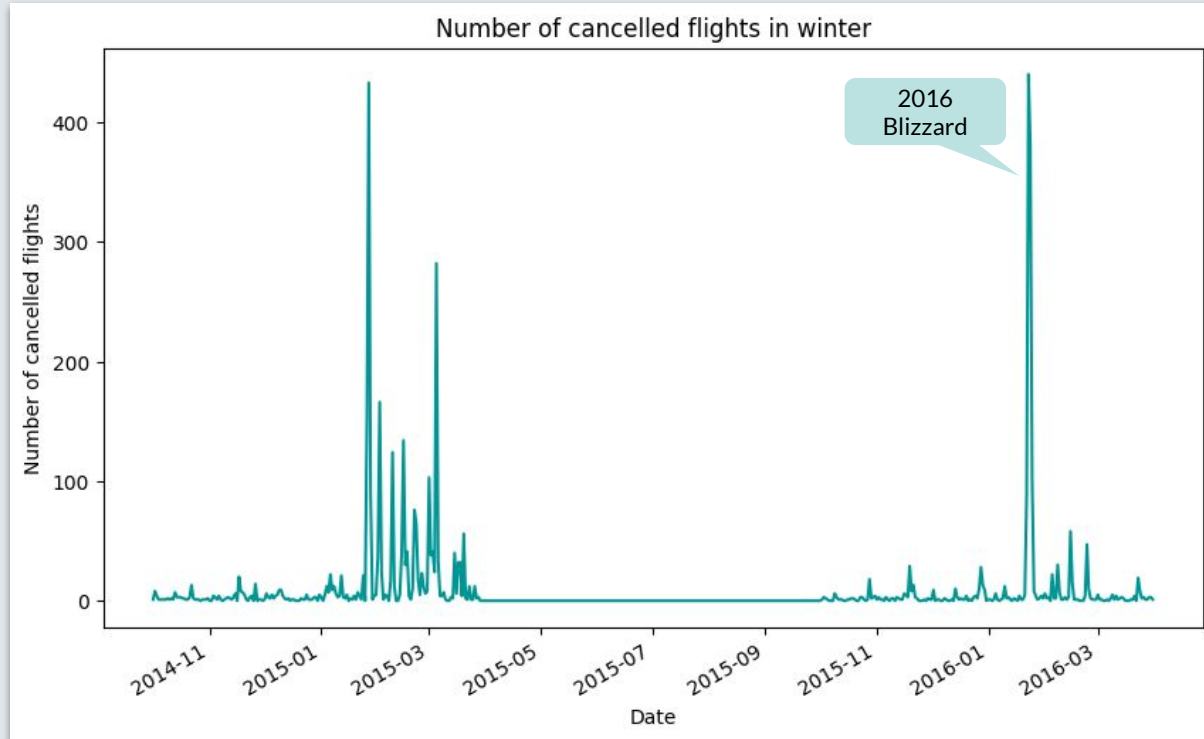
Can we see the weather event in the flights data? - YES !

Correlation Matrix

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Hypothesis 2

The number of flight cancellations increased significantly during the blizzard compared to normal conditions.

Flight cancellations over past winters

Notice the spike in cancelled flights in the previous winter. Can indicate another extreme weather event in that year

Flight cancellation rate during the snowstorm

We can confirm that the rate of flight cancellations increased during the blizzard vs other days
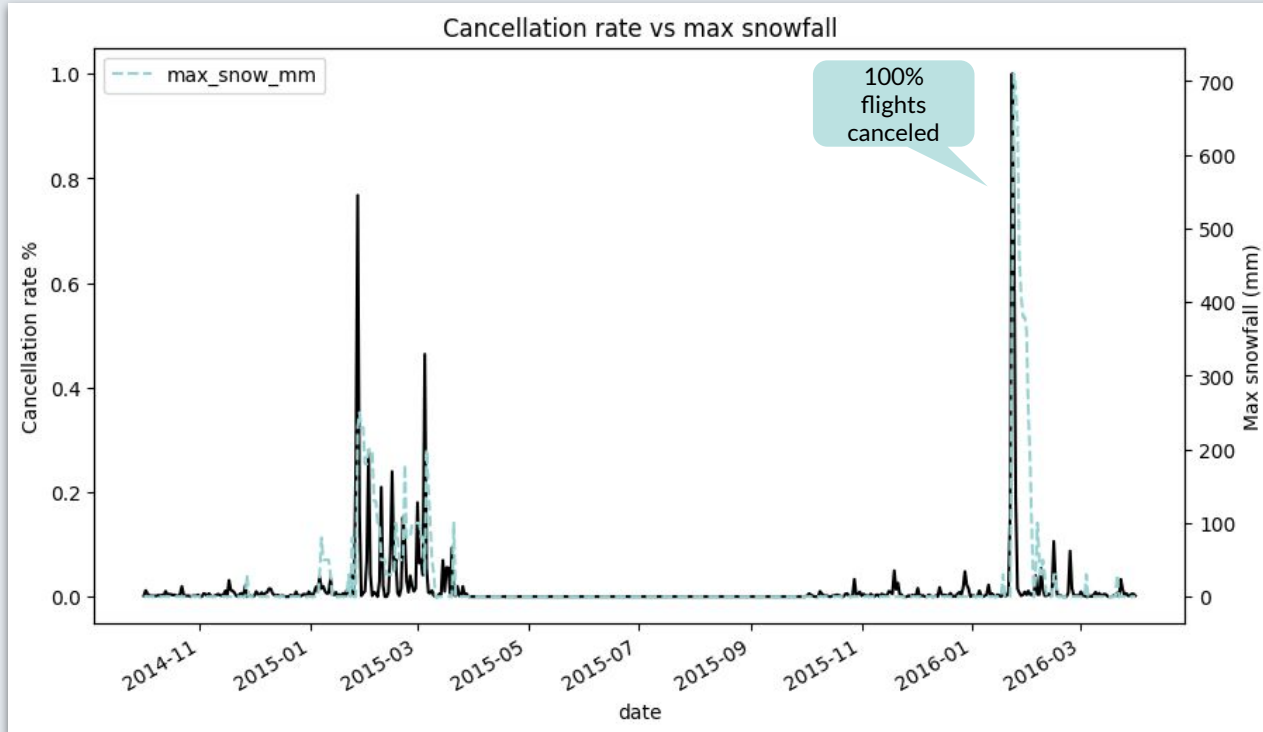
05

Hypothesis 3

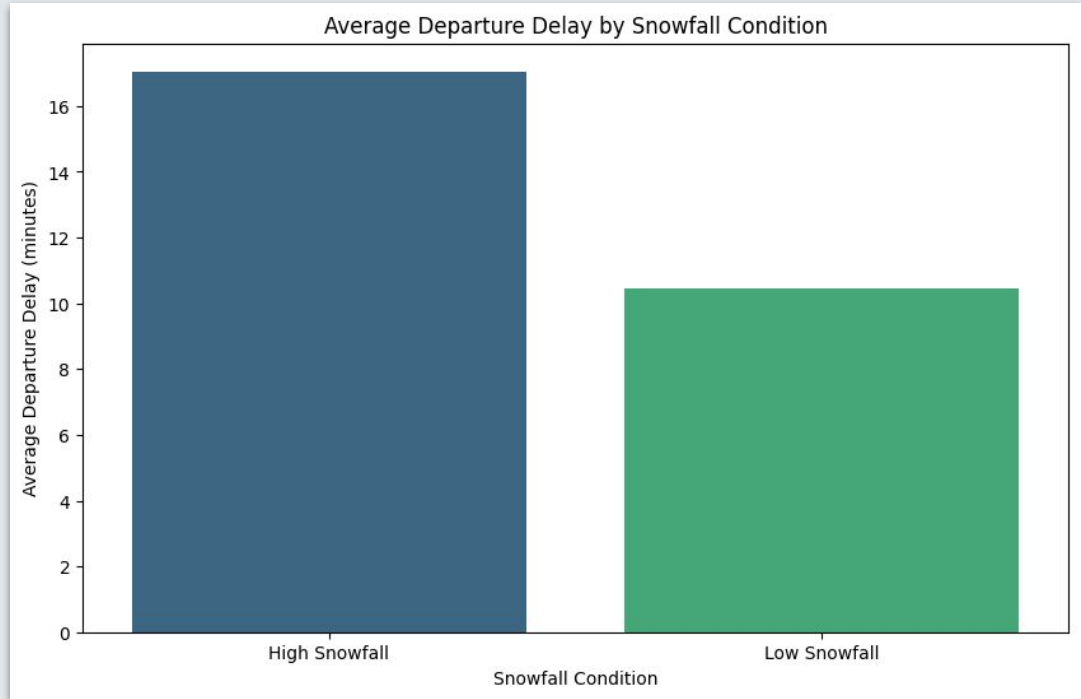There is a positive correlation between severe snow conditions and the length of flight delays.
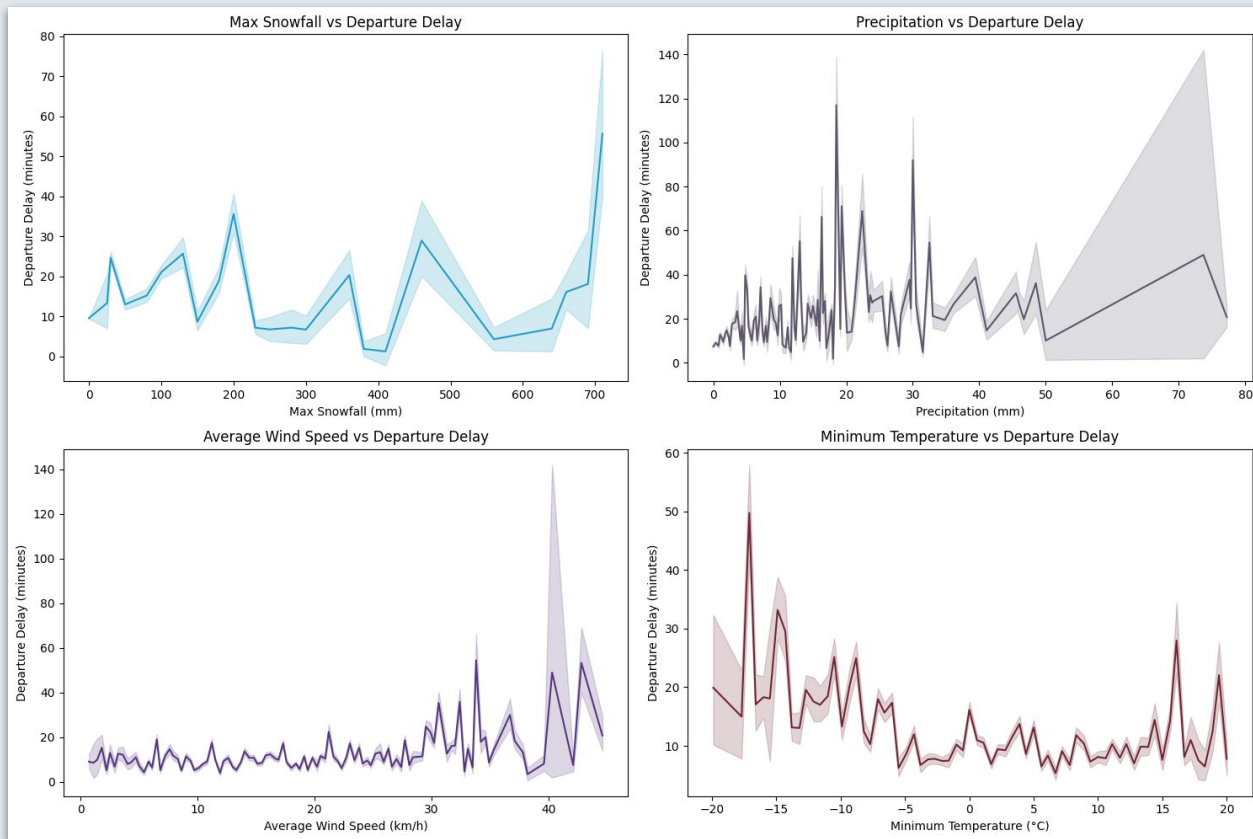
T-Test Results

Heavy Snow vs. Delays

P- value:
0.006665420358538541

Low Temperatures vs. Delays

P- value:
0.00010742217087238494

Average Departure Delay by Snowfall Condition

Impact of weather variables

Thank you!