

الجامعة الإسلامية العالمية ماليزيا  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
يُونِيسُوتِي إِسْلَامُ إِنْتَارَا بَغْسِيَا مِلْدِسِيَا  
*Garden of Knowledge and Virtue*

**SEMESTER 2 2020/2021**

**CSCI 2304 (SECTION 1)**

**INTELLIGENT SYSTEMS**

**ASSIGNMENT 4**

**Group Members:**

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## A. DATA SCIENCE

1.

a. Data science refers to the procedures and tools used to manage and use scientific data to undertake scientific research. Data, in this context, refers to information collected and utilized in this scientific research. Hence, this highlights that data science is concerned with the administration, processing, and application of scientific data to promote scientific research.

b. One component of data science is the gathering of information from corporate data to make judgments. Many data scientists devote a large portion of their time to assisting with BI methodology research. Thus, many data scientists are also referred to as BI scientists. However, data science focuses on difficulties that arise frequently while analyzing various types of corporate data.

c. Data scientists are often thought to have expertise in statistics, computing technology, AI, and related fields, and that data scientists are more like teams than individuals who specialize in one field. Thus, the use of statistics, computing technologies, and AI to handle and analyze data is a natural element of data science.

d. Data science is the study of generalizable knowledge extraction from data. A data scientist is said to need a broad set of skills in statistics, machine learning, AI, and database management, as well as a thorough understanding of problem design.

2.

a. Replacing intuition with data-driven analytical decisions.

b. Extracting values from data assets.

c. Increasing the pace of actions.

3.

a. Data Selection

b. Data Preprocessing

c. Data Transformation

d. Data Mining

e. Interpretation / Evaluation

4.

- a. Identifying project objectives.
- b. Collecting and reviewing data.
- c. Manipulating data and creating models.

5.



**Illustrated using Draw.io.**

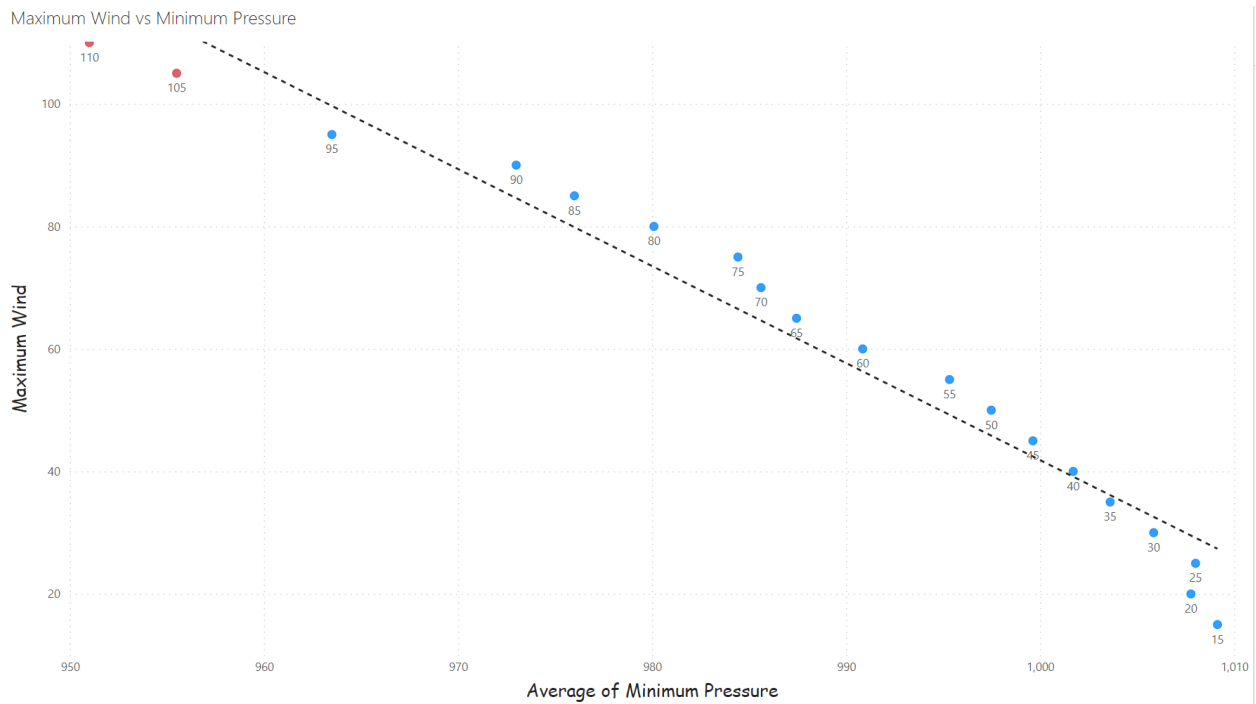
6.

Based on our understanding, data science works with large amounts of data with the use of current technologies and methodologies to uncover hidden patterns and make business decisions. Data science is used to obtain knowledge from data in some important domains and to offer support for current scientific research and management decision-making processes.

## B. POWER BUSINESS INTELLIGENCE (BI)

a.

i.

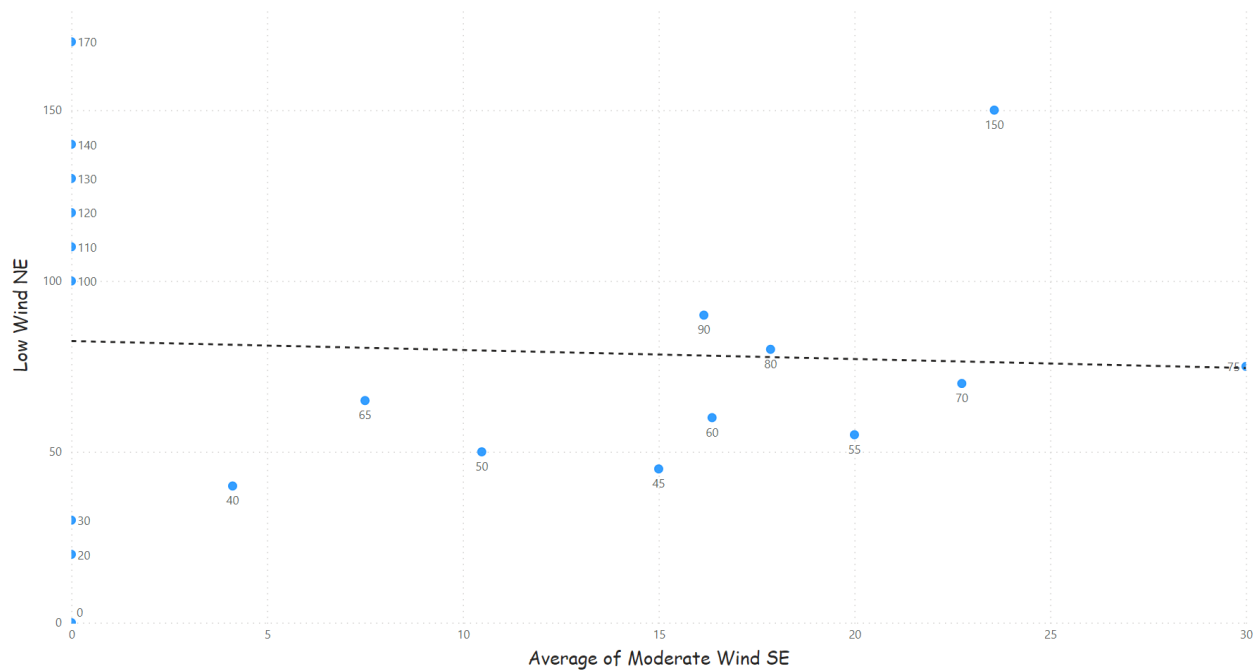


There is a negative correlation between the variables.

There are outliers at Maximum Wind 105 & 110.

ii.

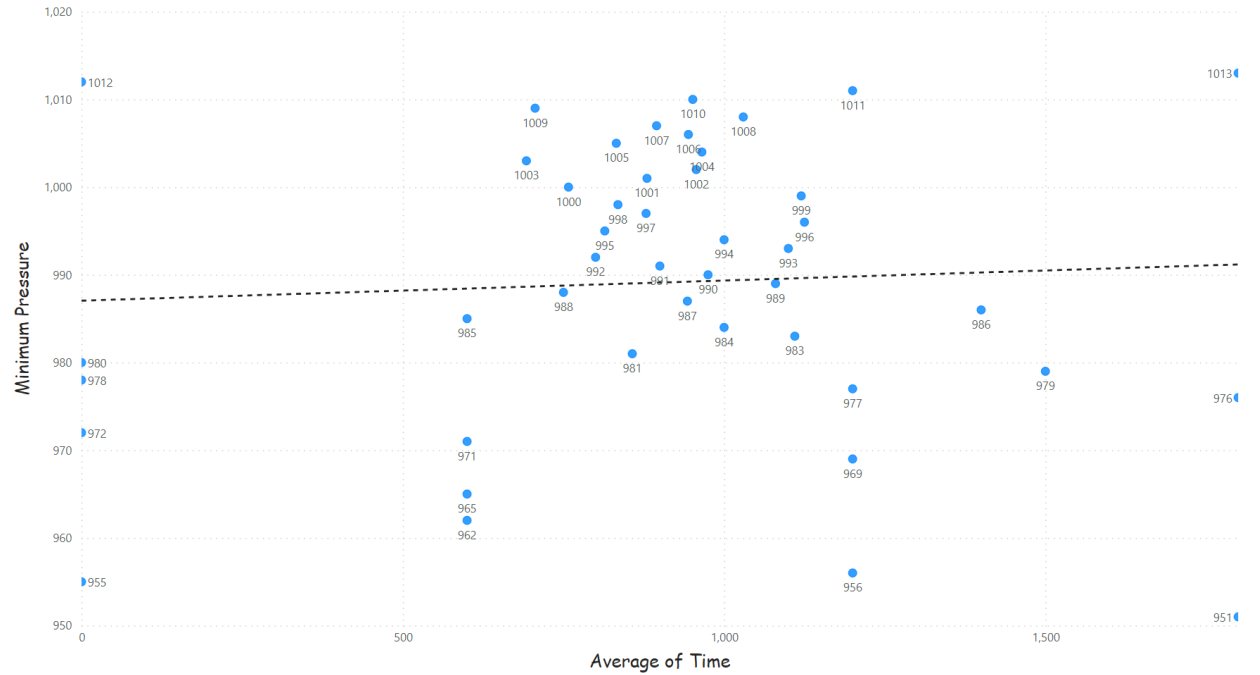
Low Wind NE vs Moderate Wind SE



There is no correlation between the variables.

iii.

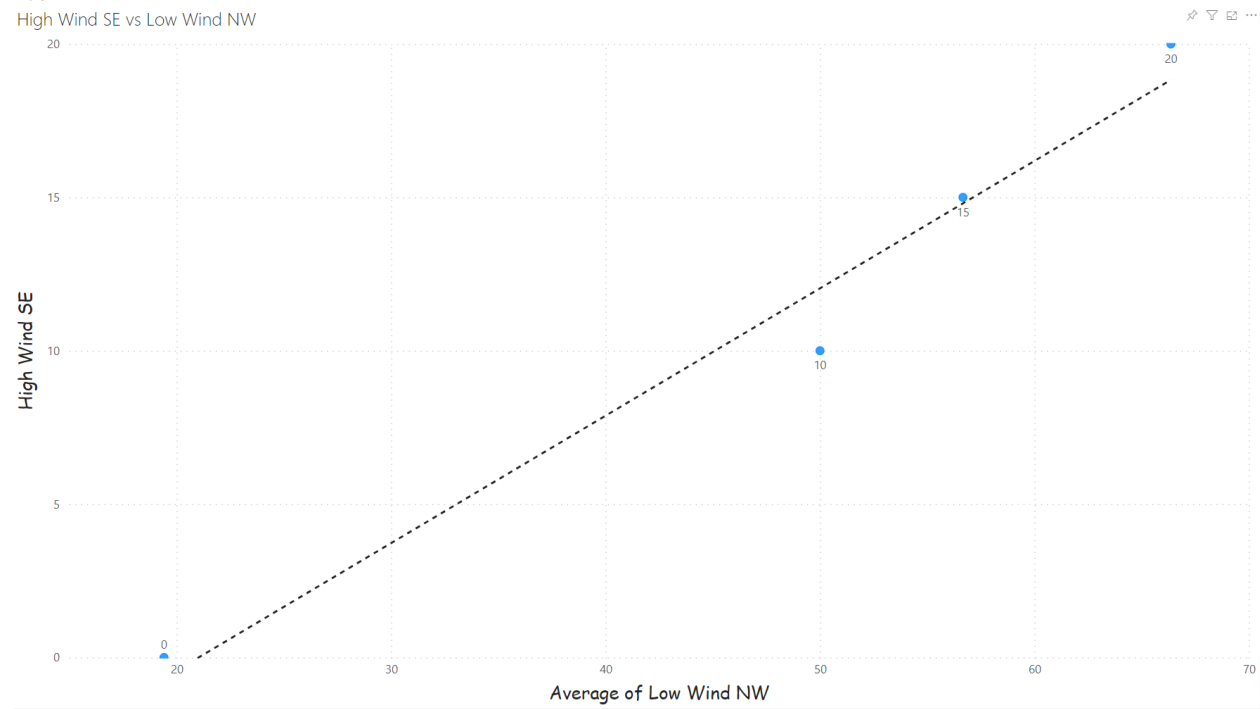
Minimum Pressure vs Time



There is no correlation between the variables.

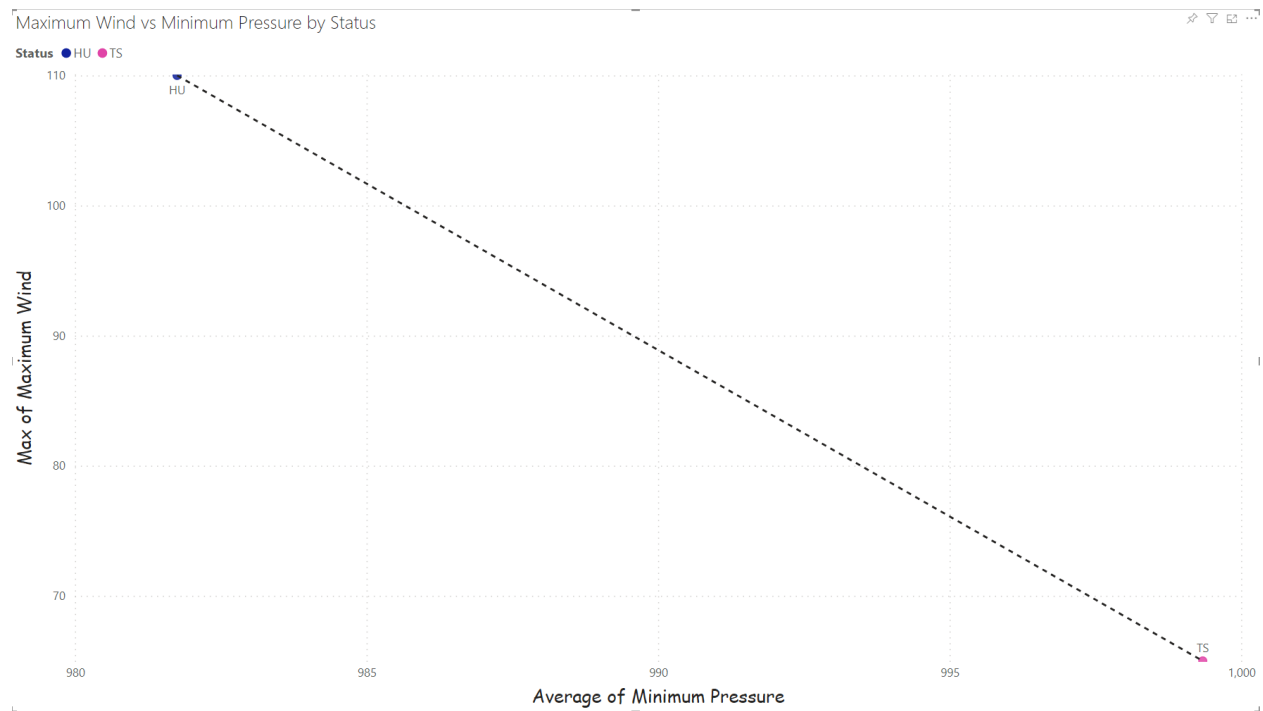
iv.

High Wind SE vs Low Wind NW



There is a positive correlation between the variables.

b.



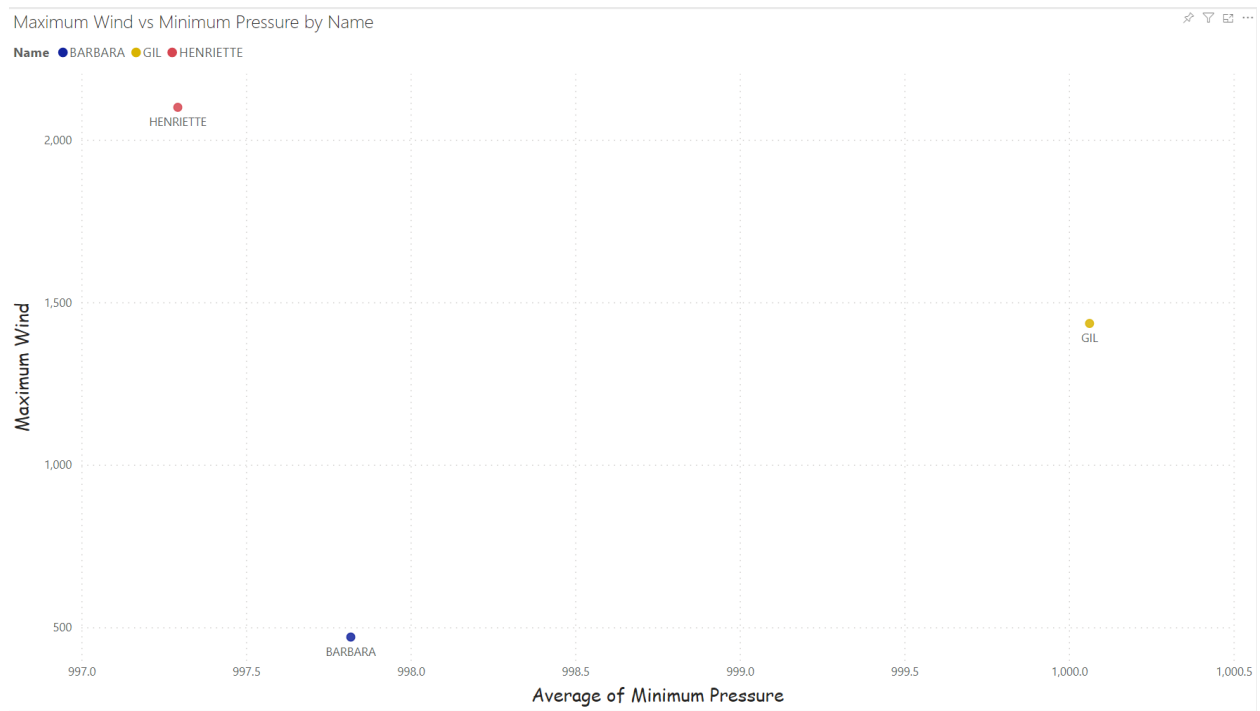
For Hurricane:

The Maximum Wind and Minimum Pressure reach their peak at a Maximum Wind of 110 and an average Minimum Pressure of 981.75.

For Tropical Storm:

The Maximum Wind and Minimum Pressure reach their peak at a Maximum Wind of 65 and an average Minimum Pressure of 999.34.

C.



There is no correlation between the variables.



d.

i) On **which day of the month** is the Maximum Wind the lowest and in **which type of storm**?

Date: 16/10/2013

Maximum Wind (Lowest): 15

Type of storm: Octave



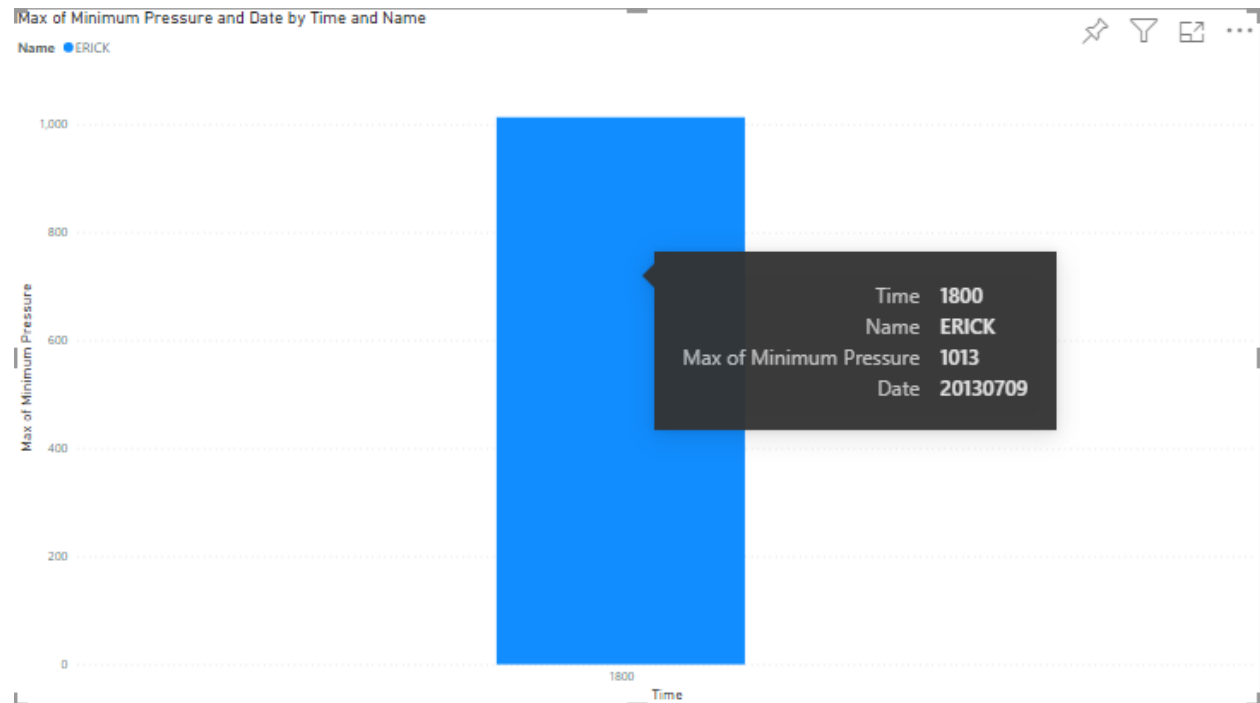
ii) At **which time of the month** is the Minimum Pressure the highest and in **which type of storm**?

Time: 1800

Date: 09/07/2013

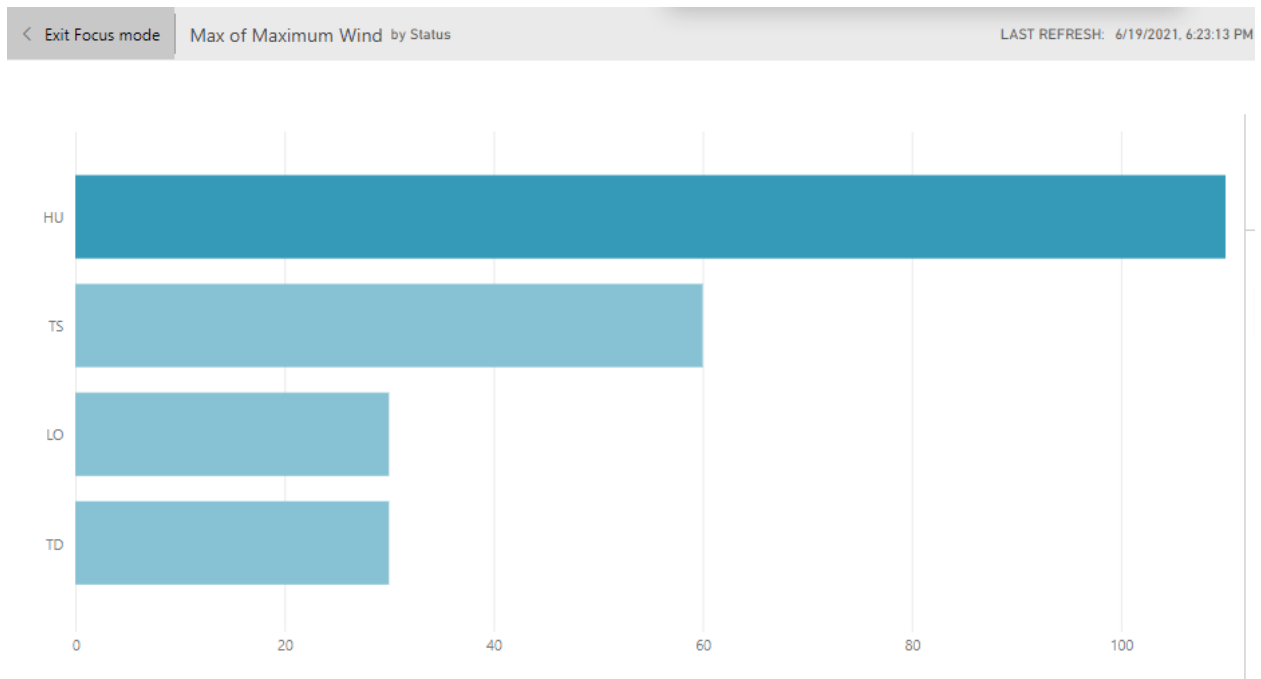
Minimum Pressure (Highest): 1013

Type of storm: Erick



e.

i) 'HU' has noticeably more Maximum Wind for ID 'EP172013'.



ii) 'HU' has noticeably more Maximum Wind.

