



# **IS428 Visual Analytics and Applications (AY 2019-20 T1)**

## **Climate Vizards User Guide**

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# 1. Navigation bar

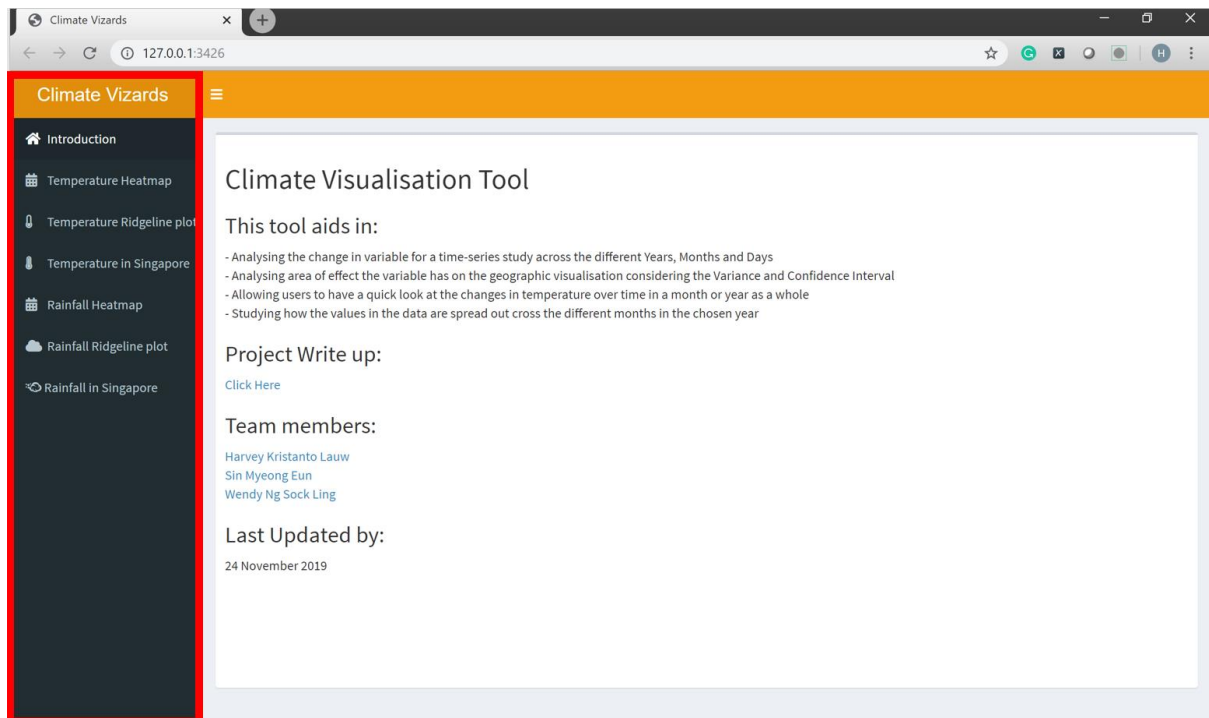


Figure 1

The navigation bar (Marked out in red in Figure 1) contains 7 tabs. Clicking on each tab will bring the users to the respective pages as listed below:

- Introduction → Introduction Page (Refer to Section 2)
- Temperature Heatmap → Temperature Heatmap Page (Refer to Section 3)
- Temperature Ridgeline plot → Temperature Ridgeline plot Page (Refer to Section 4)
- Temperature in Singapore → Temperature Map and Boxplot Page (Refer to Section 5)
- Rainfall Heatmap → Rainfall Heatmap Page (Refer to Section 6)
- Rainfall Ridgeline plot → Rainfall Ridgeline plot Page (Refer to Section 7)
- Rainfall in Singapore → Rainfall Map and Bar graph Page (Refer to Section 8)

## 2. Introduction Page

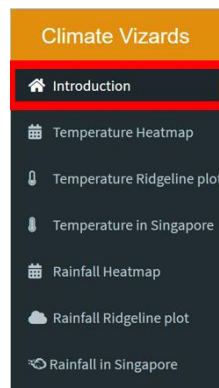


Figure 2

The introduction page will be the default page to be loaded when users first access the shiny link. Users can also navigate to this page by clicking on the “Introduction” tab on the Navigation bar as shown in Figure 2.

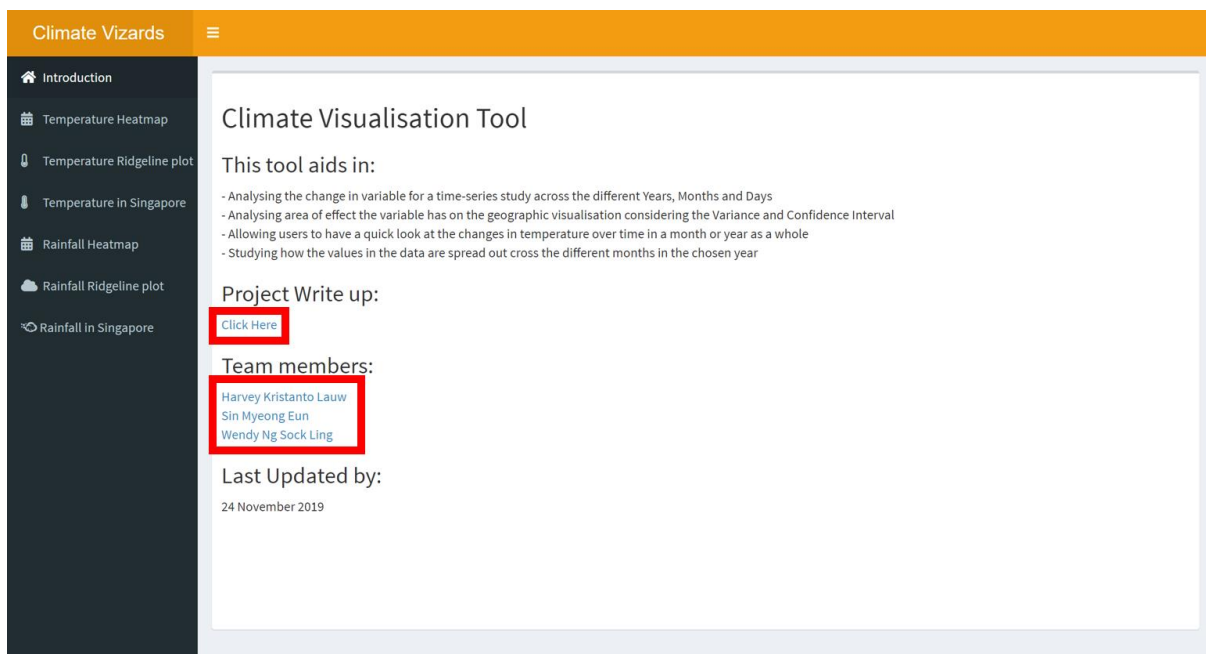


Figure 3

The Introduction page gives users a brief overview of the different analyses that the tool can provide, the wikipedia link for the project write up, Team members' information, and lastly, the latest updated date as shown in Figure 3.

### 3. Temperature Heatmap Page

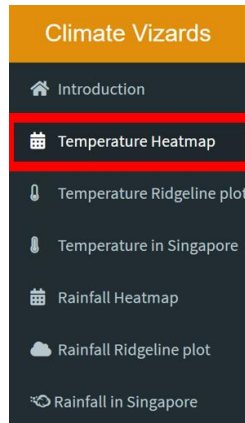


Figure 4

To navigate to the Temperature Heatmap Page, users can click the “Temperature Heatmap” tab on the Navigation bar as shown in Figure 4.

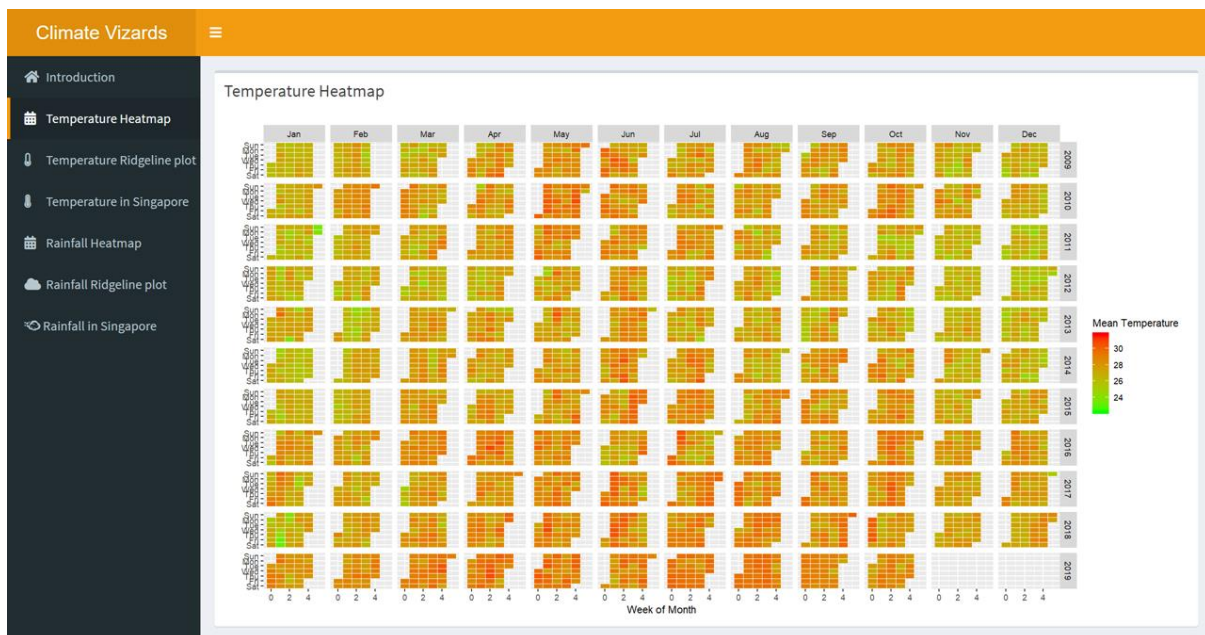


Figure 5

With reference to Figure 5, the Temperature Heatmap Page shows users a Calendar Heatmap which is a comprehensive, easy-to-read tool for them to analyse how the trend in temperature has changed over the years.

## 4. Temperature Ridgeline plot Page

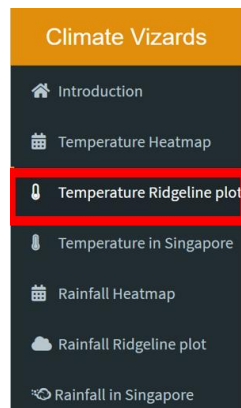


Figure 6

To navigate to the Temperature Ridgeline plot Page, users can click on the “Temperature Ridgeline plot” tab on the Navigation bar as shown in Figure 6.

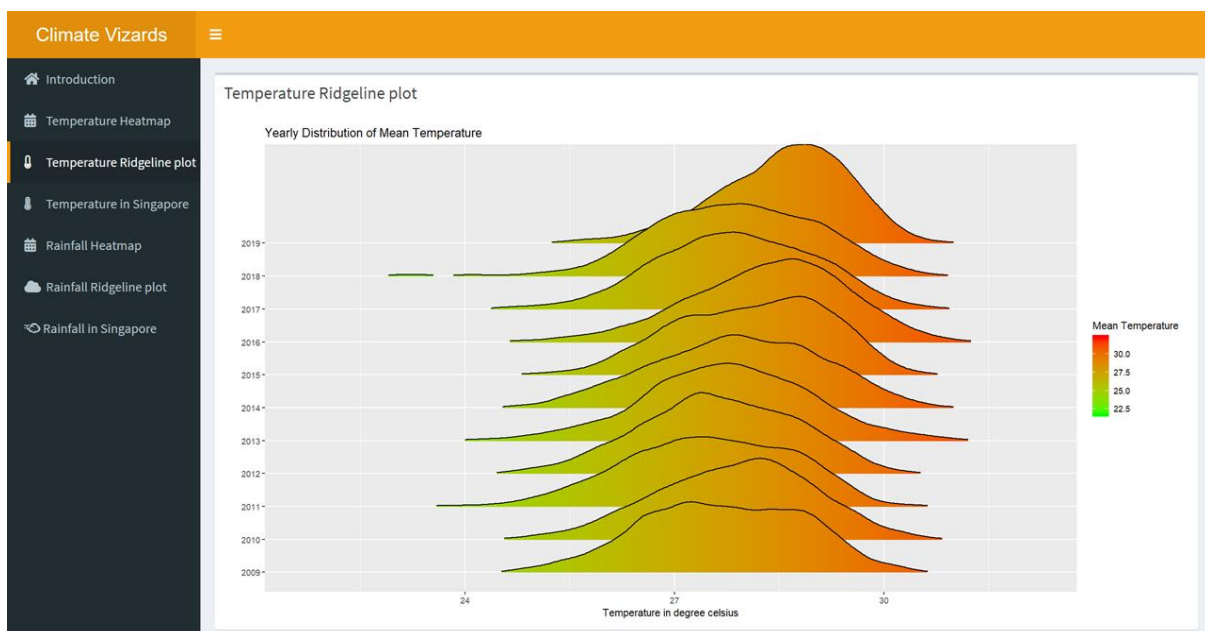


Figure 7

The Temperature Ridgeline plot Page allows users to view a yearly ridge plot for temperature analysis, as shown in Figure 7.

# 5. Temperature Map and Boxplot Page

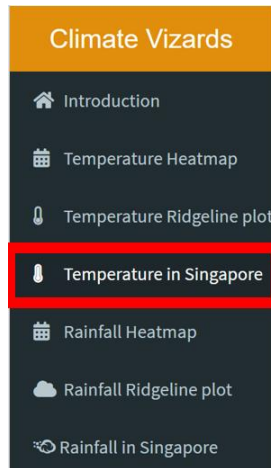


Figure 8

To navigate to the Temperature Map and Boxplot Page, users can click on the “Temperature in Singapore” tab on the Navigation bar as shown in Figure 8.

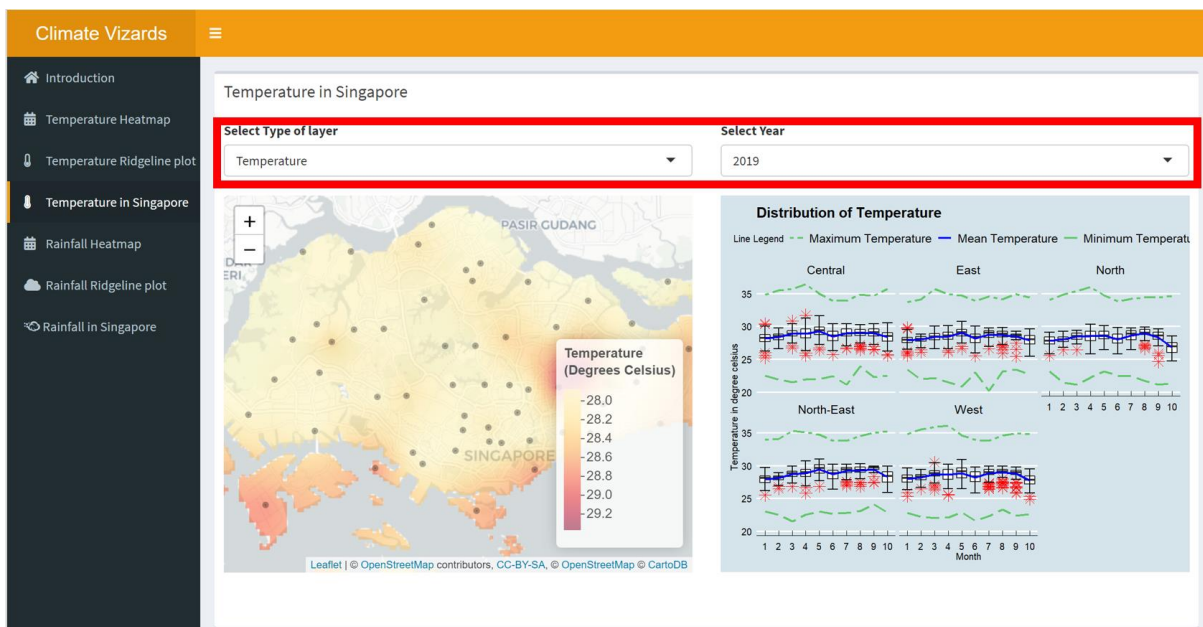


Figure 9

With reference to Figure 9, The Temperature Map and Boxplot Page allows users to view a yearly Geospatial Interpolation Visualisation as well as the boxplot together with line graphs which will be useful for them to refer to when making insightful analysis of the temperature.

Users can choose to toggle between “Temperature”, “Variance” and “Confidence Interval” by selecting the dropdown list under “Select Type of layer” as marked out in Figure 9.

Additionally, users can choose to toggle between the years from 2009 to 2019 by selecting the dropdown list under “Select Year” as marked out in Figure 9.

## 6. Rainfall Heatmap Page

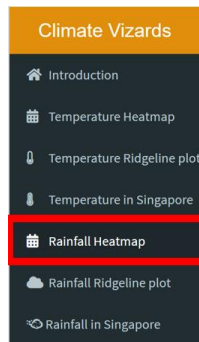


Figure 10

To navigate to the Rainfall Heatmap Page, users can click on the “Rainfall Heatmap” tab on the Navigation bar as shown in Figure 10.

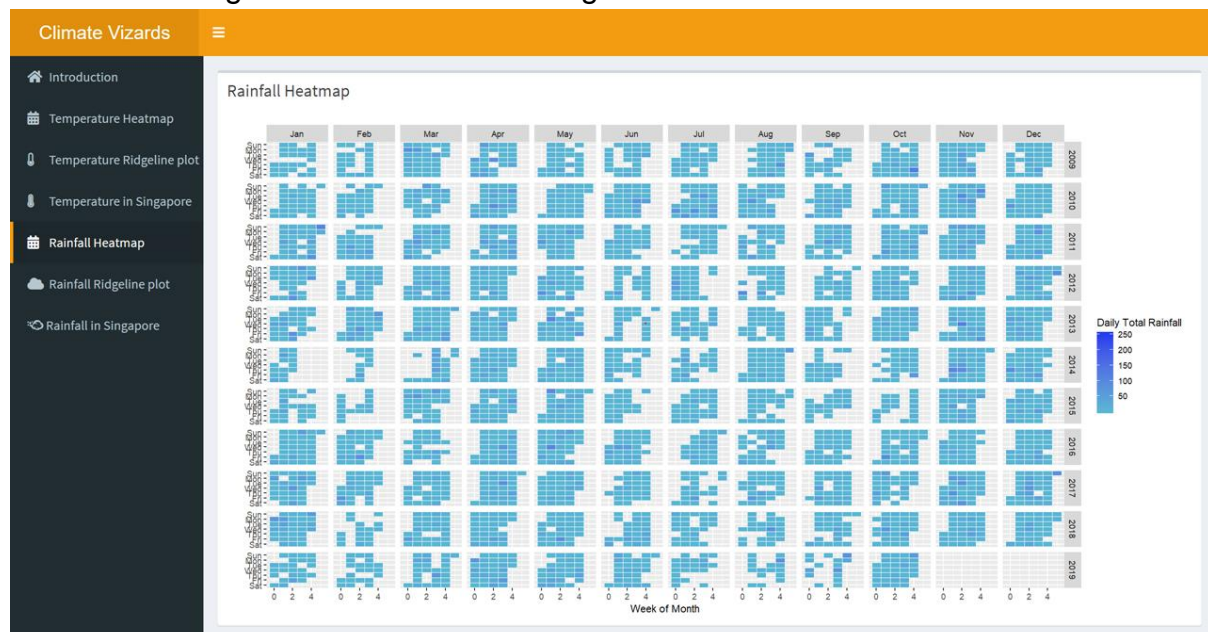


Figure 11

The Rainfall Heatmap Page provides users an overview of daily total rainfall through the use of Calendar Heatmap, as shown in Figure 11.



# 7. Rainfall Ridgeline plot Page

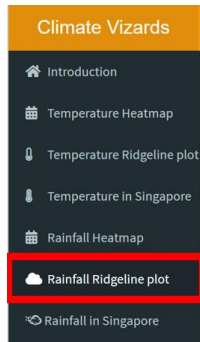


Figure 12

To navigate to the Rainfall Ridgeline plot Page, users can click on the “Rainfall Ridgeline plot” tab on the Navigation bar as shown in Figure 12.

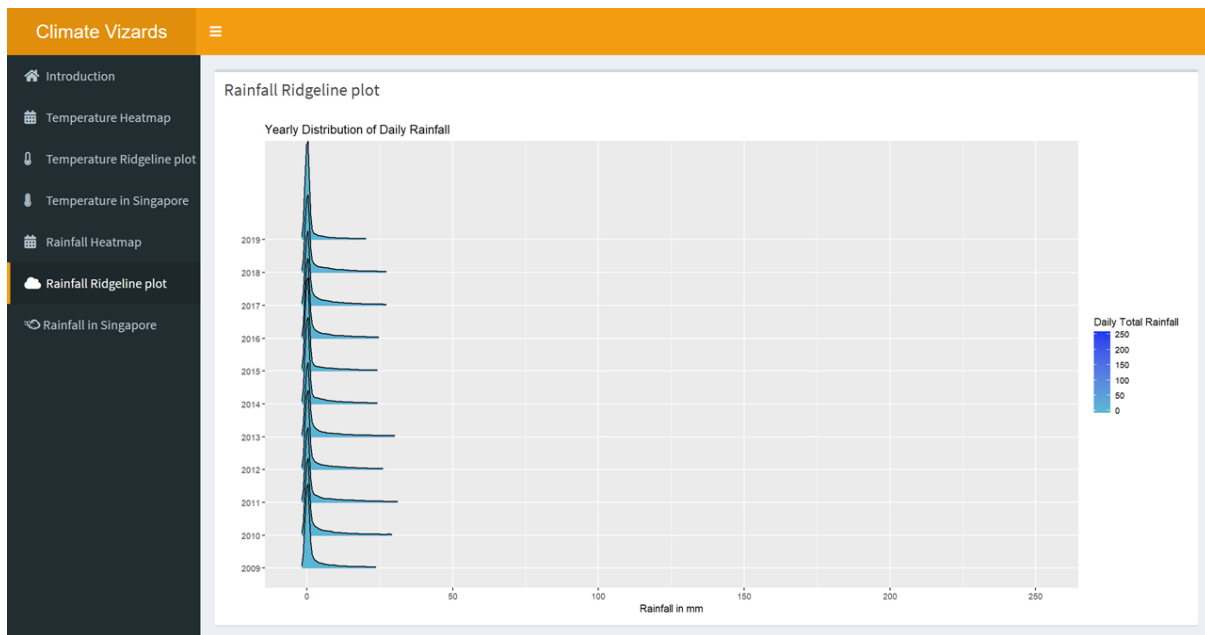


Figure 13

The Rainfall Ridgeline plot Page provides users a yearly ridge line plot for them to make any analysis on the rainfall in Singapore, as shown in Figure 13.

## 8. Rainfall Map and Bar Graph Page

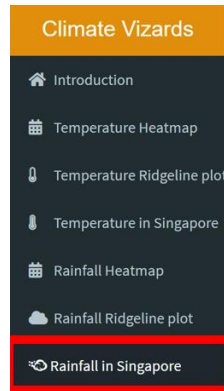


Figure 14

To navigate to the Rainfall Map and Bar Graph Page, users can click on the “Rainfall in Singapore” tab on the Navigation bar in Figure 14.

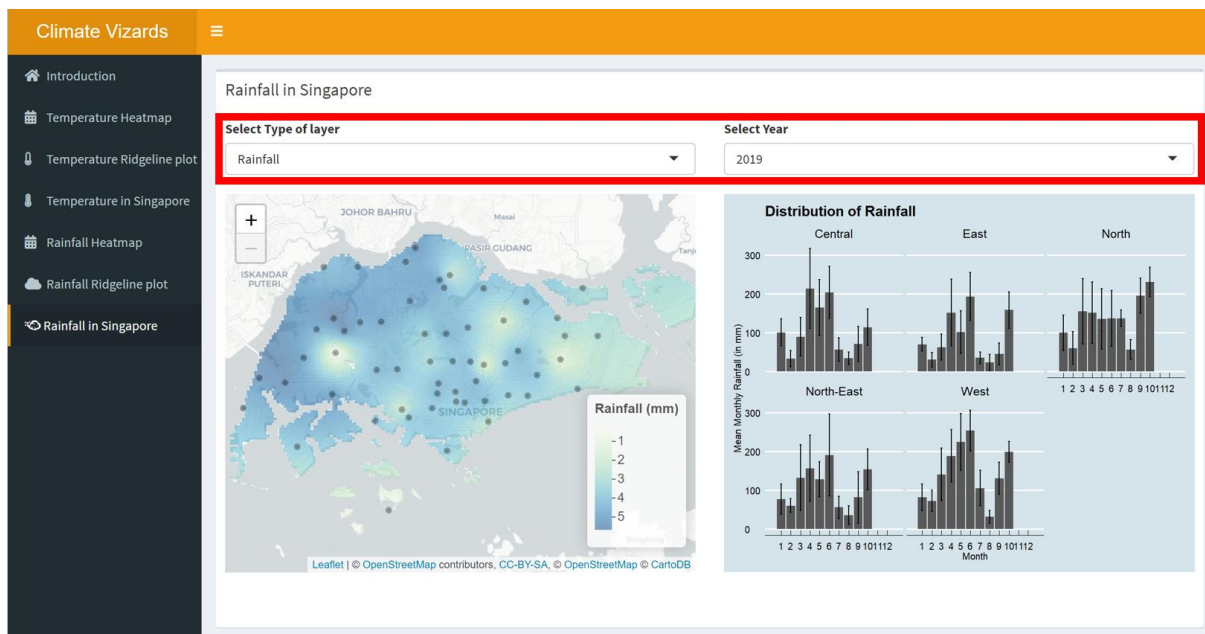


Figure 15

The Rainfall Map and Bar Graph Page allows users to view a yearly Geospatial Interpolation Visualisation as well as the Bar Graph with error bars for them to analyse the rainfall in Singapore as shown in Figure 15.

Users can choose to toggle between “Rainfall”, “Variance” and “Confidence Interval” by selecting the dropdown list under “Select Type of layer” as marked out in Figure 15. Moreover, users can choose to toggle between the years from 2009 to 2019 by selecting the dropdown list under “Select Year” as marked out in Figure 15.