Question 2

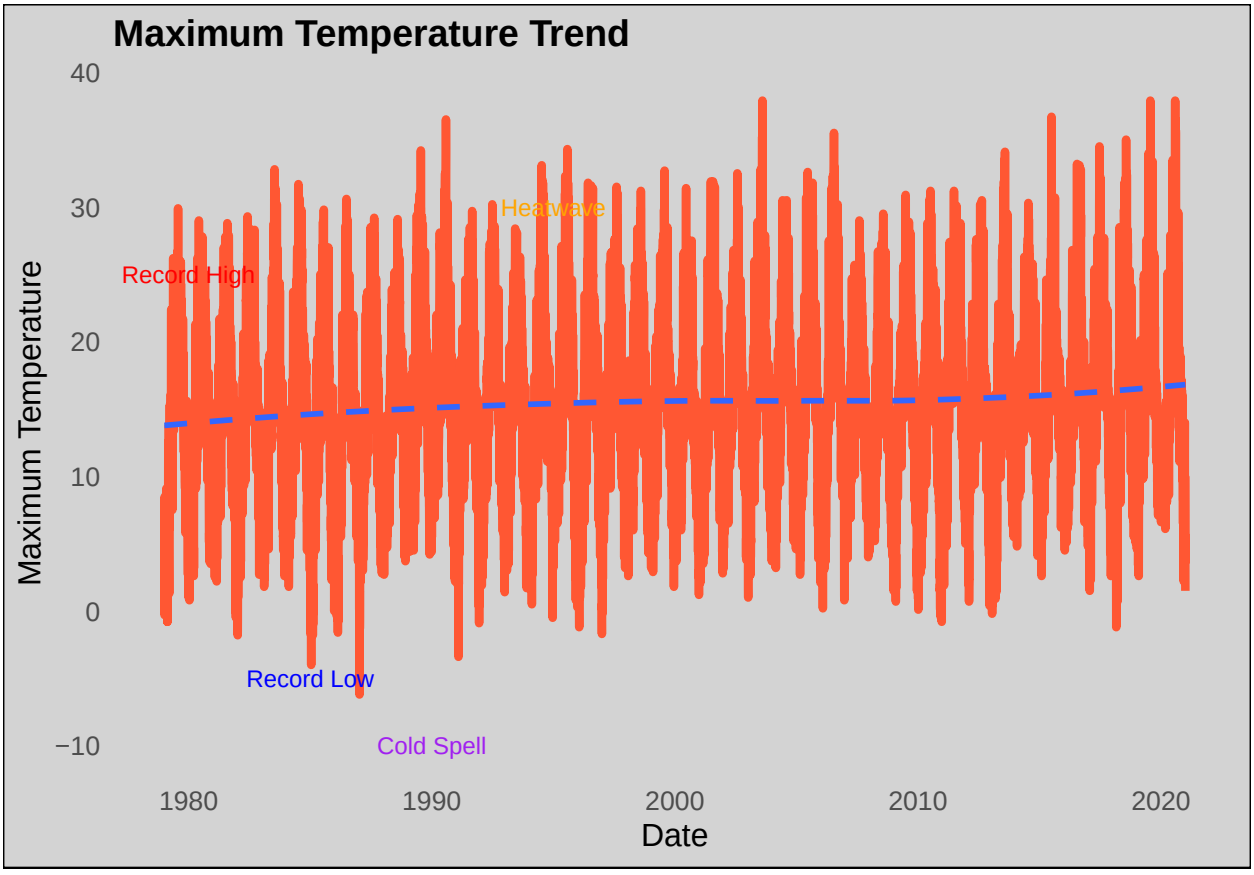
2023-06-17

```
suppressMessages(library(tidyverse))
source("/Users/sahilbhugwan/Downloads/Data science/21075492/Q2/code/Q2.R")
```

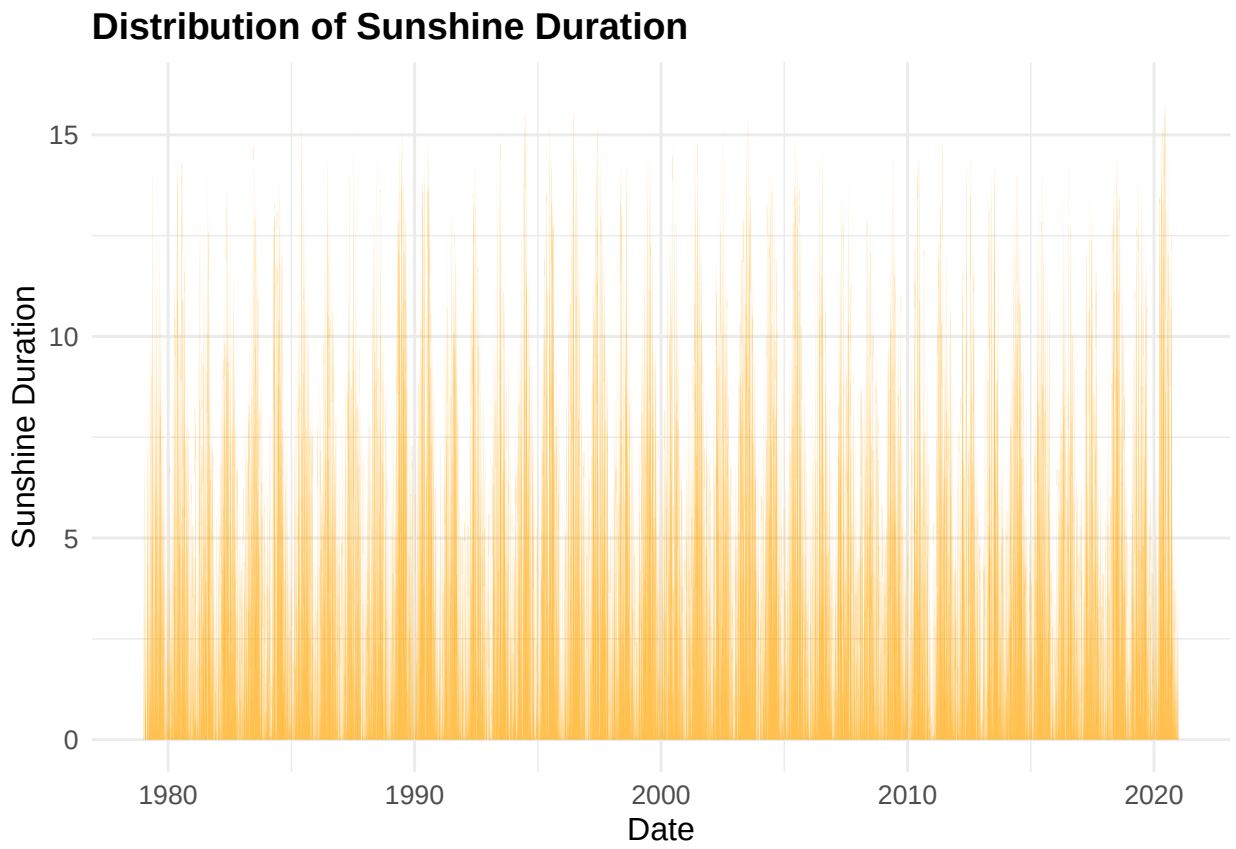
London Weather is just truly awful if you compare it to the absolutely crisp weather in Cape Town

The following is to show the Max Temperature trend as well as sun duration

```
print(MT)
```

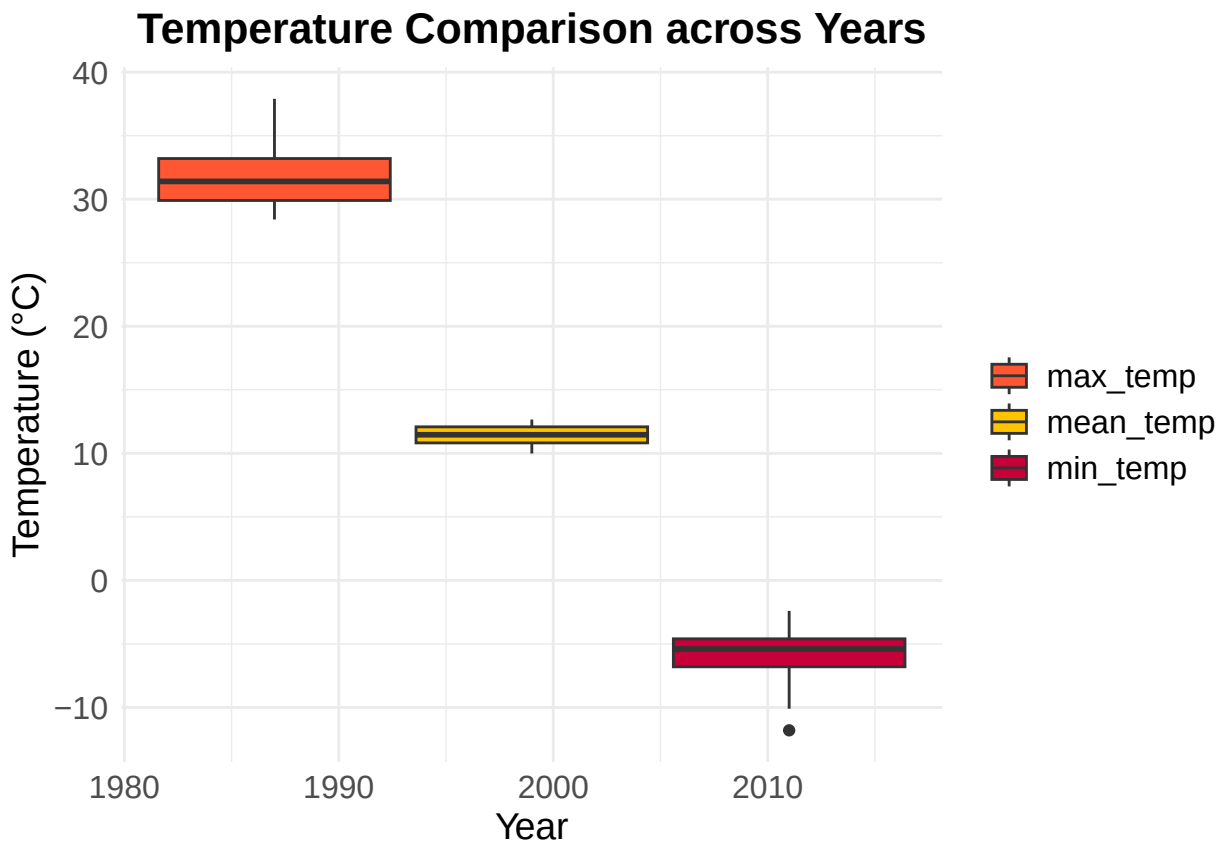



```
print(SD)
```



Box plot

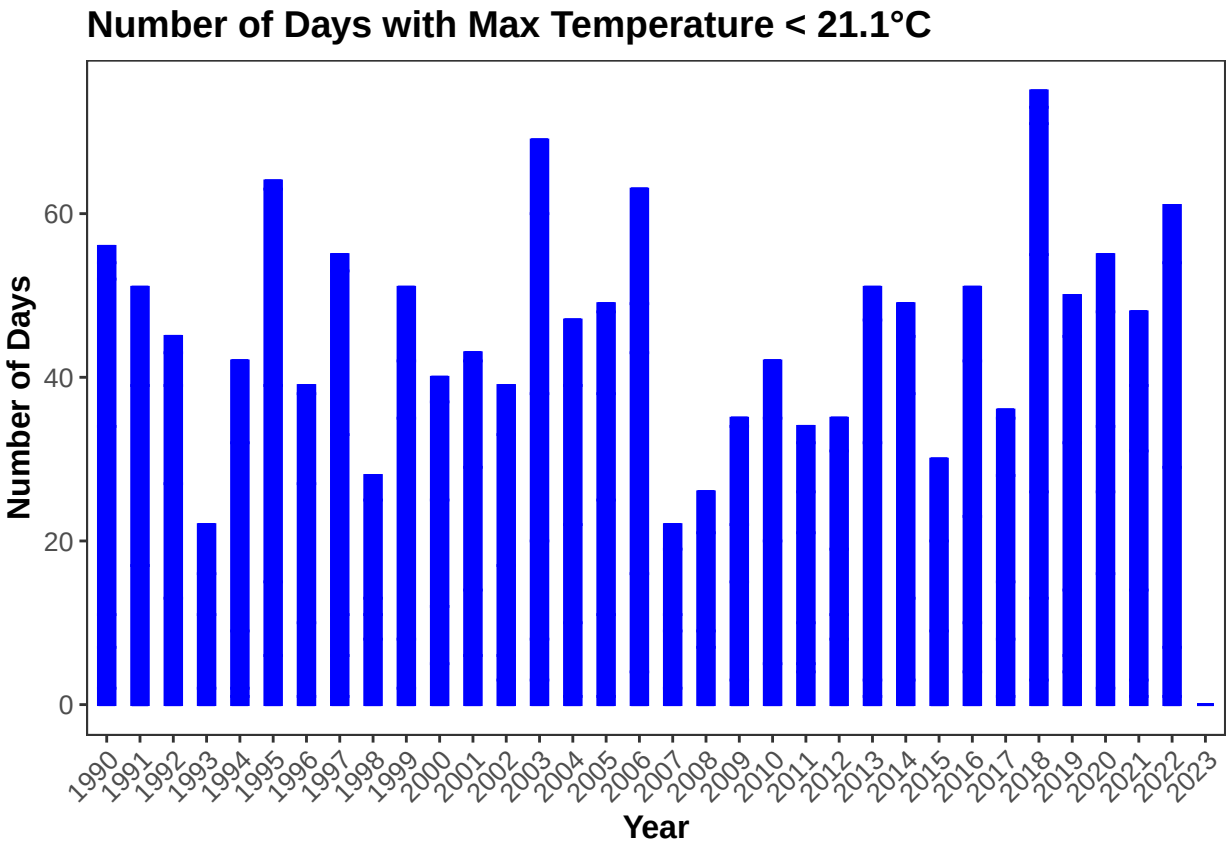
```
Box_plot_year(London)
```



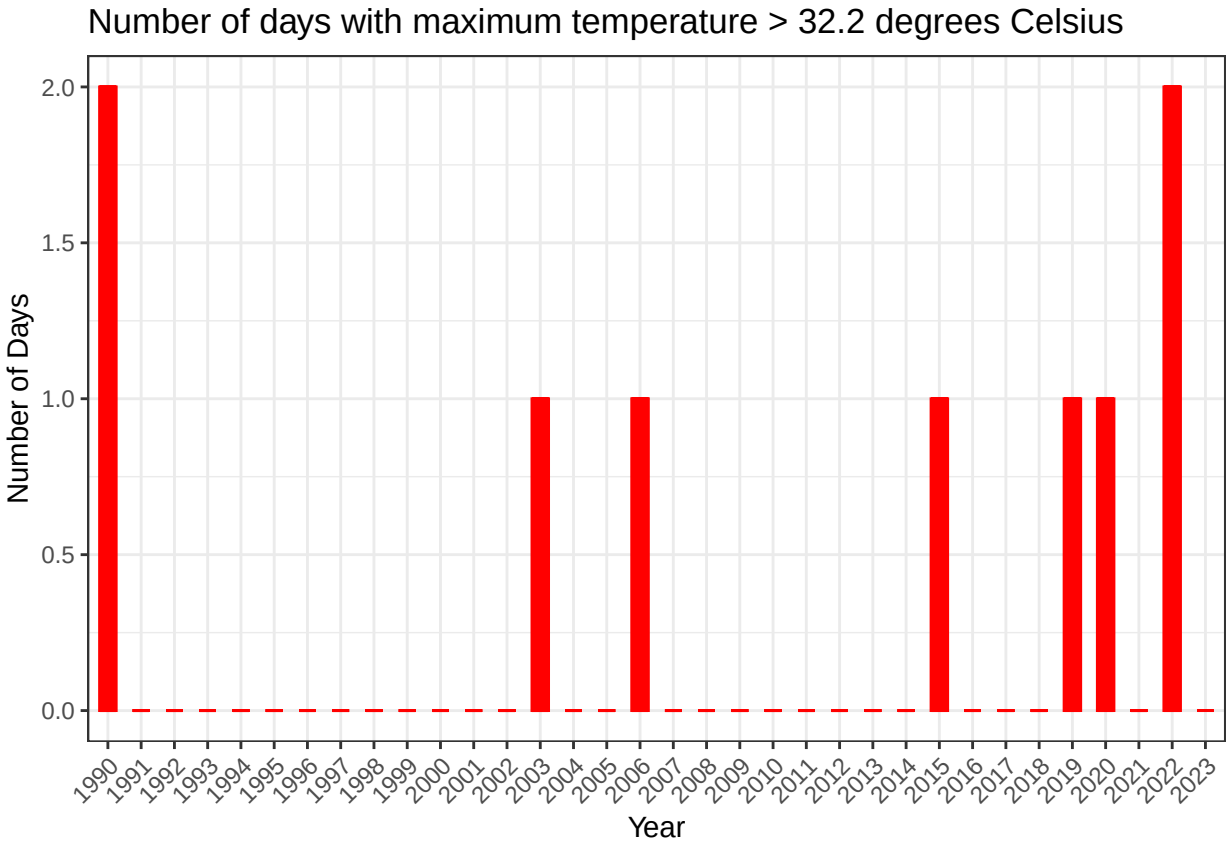
Analysis

It can be clearly seen that the average temperatures in the UK has had a stedy decline. As well as the fact that there is a clear trend that the temperatures remain relatively stable over time and don't fluctuate much. To further look at this we will look at the number of days where the max temperature has been greater than 32.2 degrees Celsius and as well the amount of days where it has been less than 21.1 degrees Celsius

```
L21
```


Number of Days with Max Temperature < 21.1°C
Number of Days
0
20
40
60
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year

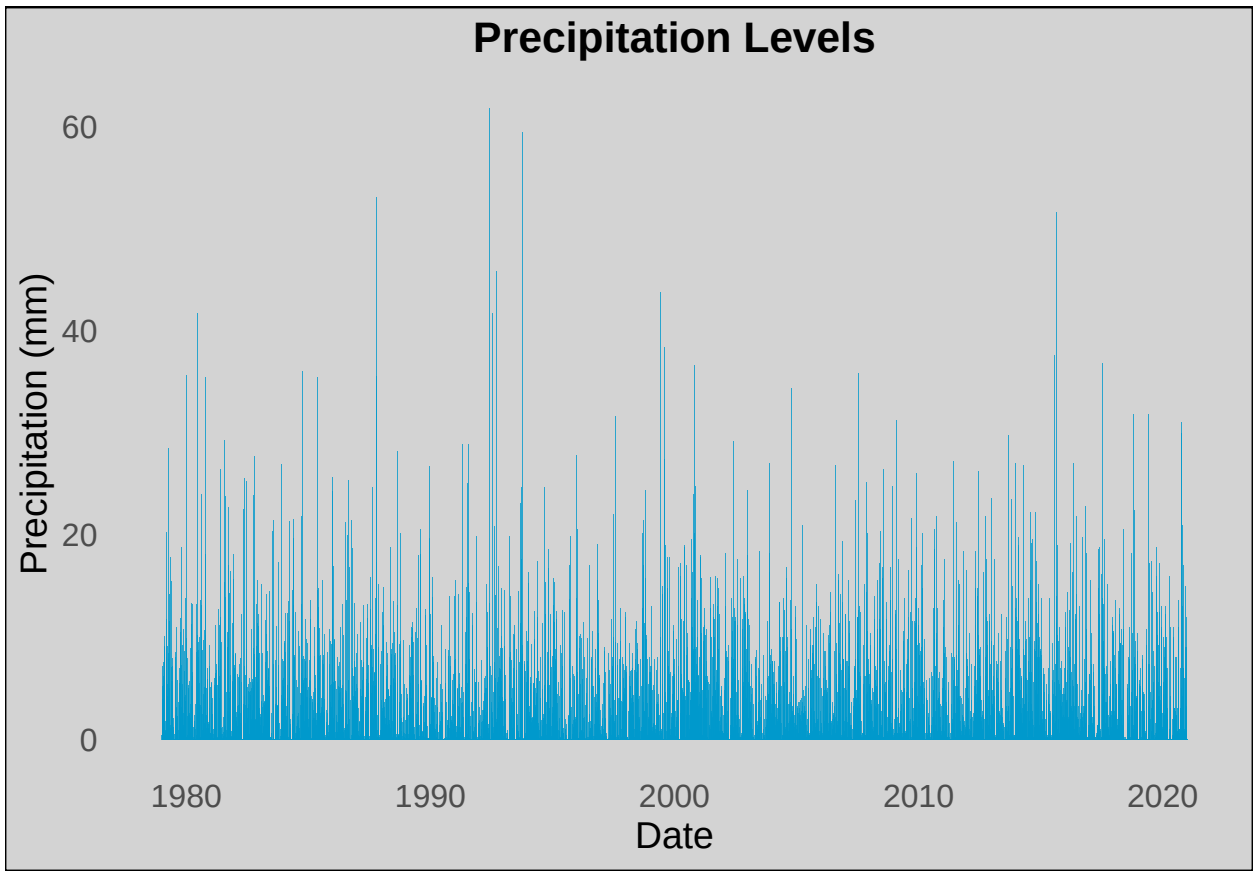
```
M32
```



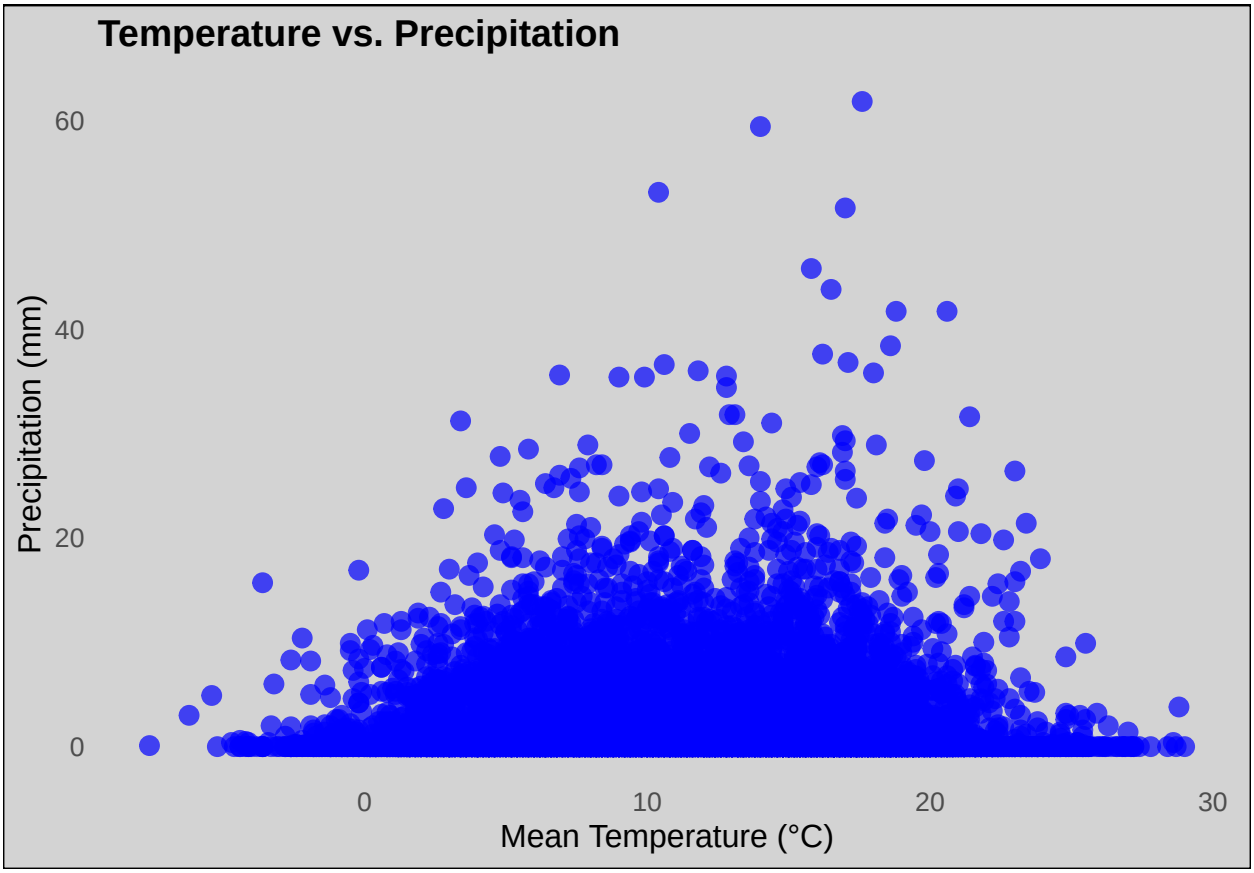
It is clear from this that the UK experiences more days when the temperature is less that 21 degrees. suggesting that even in summer Cape Town weather is definitely better !

next i will be looking at the Precipitation level

```
print(PL)
```


Precipitation Levels
Precipitation (mm)
60
40
20
0
1980
1990
2000
2010
2020
Date

```
print(TemP)
```



Analysis

we can clealry see that the UK experience a fair bit of rain. given that we saw that the average temperatures range from 10- 15 degress we can also see that during that temperature there is consistent rain.

Conculsion

Contrary to my friends belief the average temperatures in the UK tend to be relatively stable between the 10- 15 degress. However when the temperetures are in that range we can clearly see that there it is generally consistent precipitation. However it should be noted that the UK experiences winter for majority of the year and if we had to compare it to Cape Town, where Cape Town also experiences its rainy season during winter. It could be fair to say that it is failry similar.