ggplot2-STAA566

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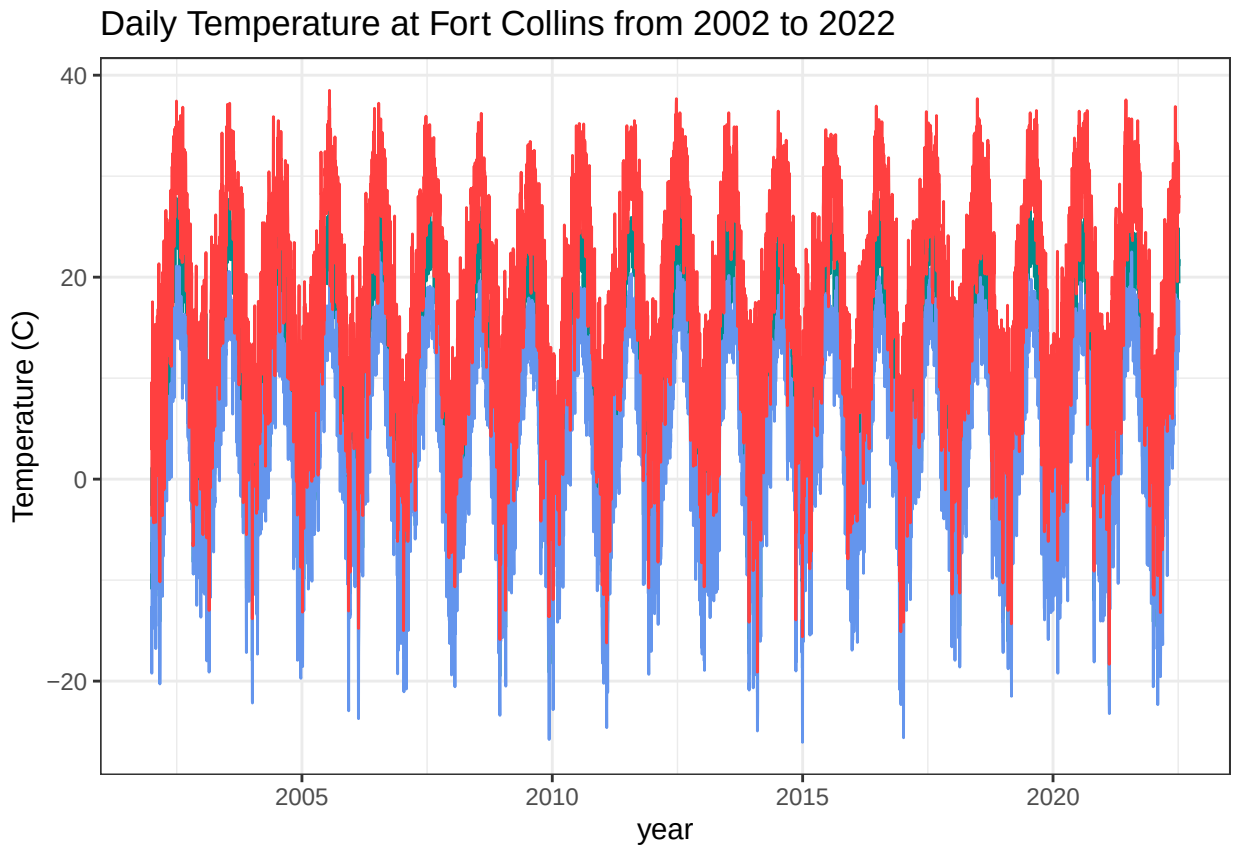
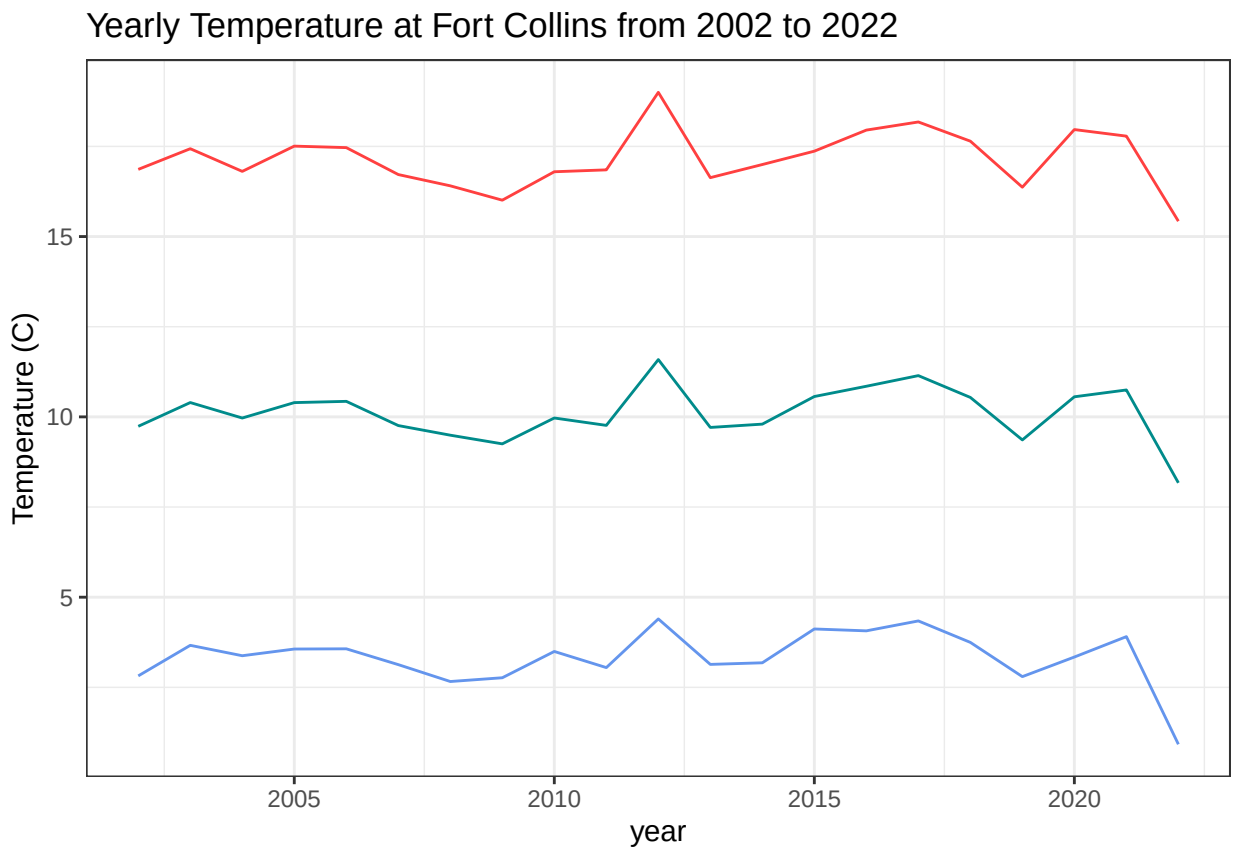
Header

This is Fort Collins temperature report datasets from https://ccc.atmos.colostate.edu/~autowx/fclwx_access.php
We could see from the table below that in each day, there are 24 temperature reports which mean inorder to get a daily temperature, we need to conbind those hourly to daily.
The last columns on the datasets is a West Nile Virus report from https://cdphe.colorado.gov/animal-related-diseases/west-nile-virus/west-nile-virus-and-your-health which is also, an open source.

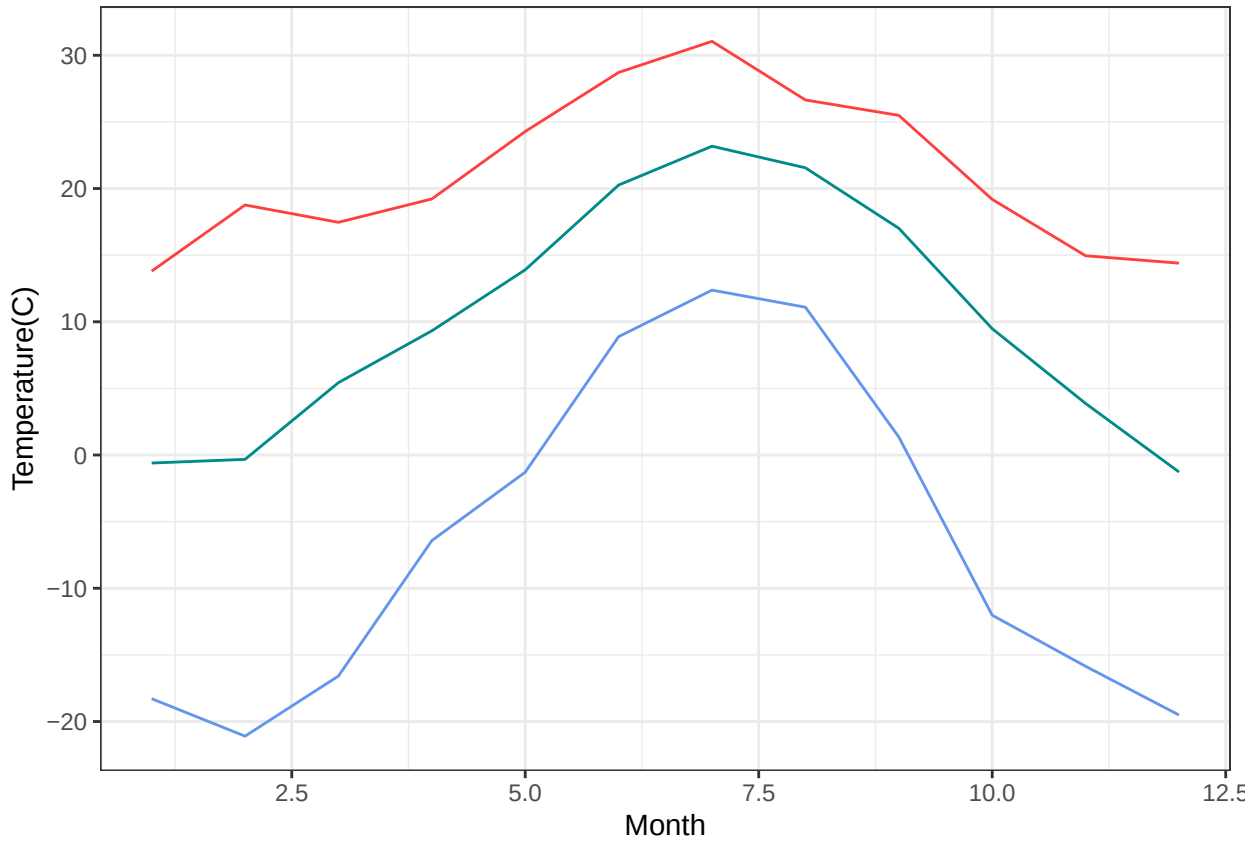
```
##   index       date time TempC Humidity DewPointC WindMS WindDir GustMS GustDir
## 1     0 2002-01-01 0:00 -4.61     98.7     -4.78   0.67      72   1.70      47
## 2     1 2002-01-01 1:00 -4.78     98.7     -4.94   0.89      72   1.83      81
## 3     2 2002-01-01 2:00 -5.00     98.9     -5.11   0.98      83   1.92     111
## 4     3 2002-01-01 3:00 -5.17     99.1     -5.28   0.85      77   1.88      58
## 5     4 2002-01-01 4:00 -5.61     98.9     -5.72   0.67     191   1.61     160
## 6     5 2002-01-01 5:00 -5.72     99.0     -5.83   0.94      82   2.55      82
##   Pressure Solar PrecIN PrecMM WNVCasesReport
## 1   852.05  27.5     NA     NA             NA
## 2   852.38   4.0     NA     NA             NA
## 3   852.84 -18.7     NA     NA             NA
## 4   853.08  21.8     NA     NA             NA
## 5   853.09   0.5     NA     NA             NA
## 6   853.08  30.6     NA     NA             NA
```



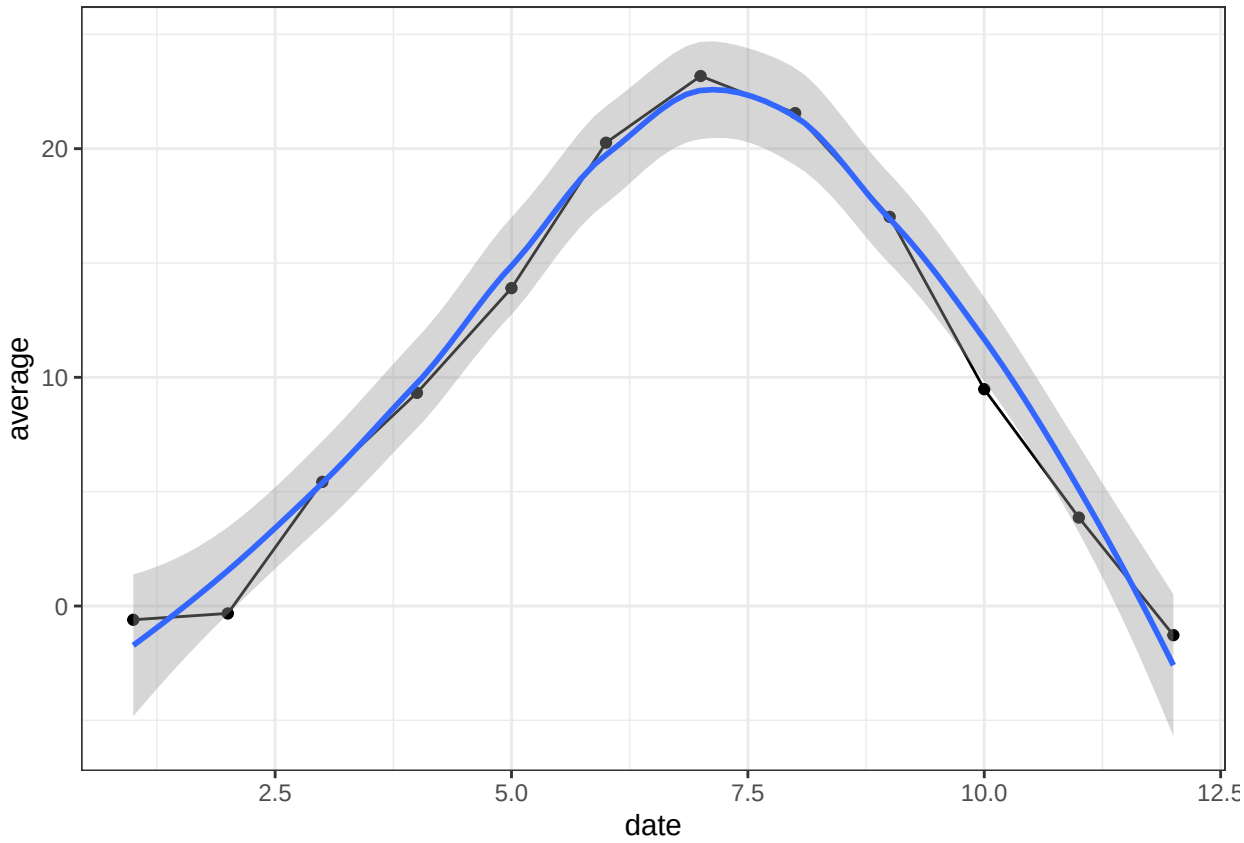
We could see from this plot, that looking for daily temp. plot does not help anything much, since there are too many information and noise.



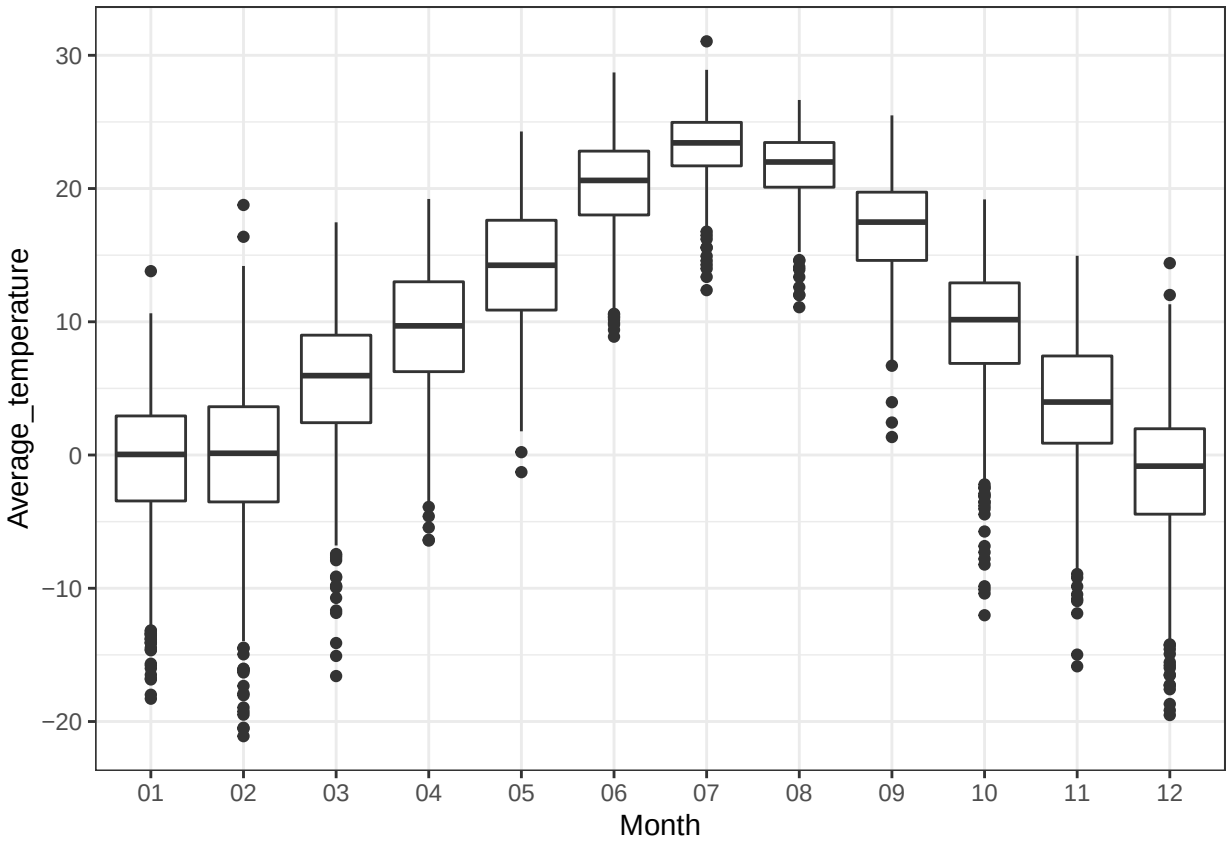
Instead of plotting daily temperature, we still do not receive a lot of information from yearly Temperature, it is still almost a flat line, and there is no pattern or any correlation.

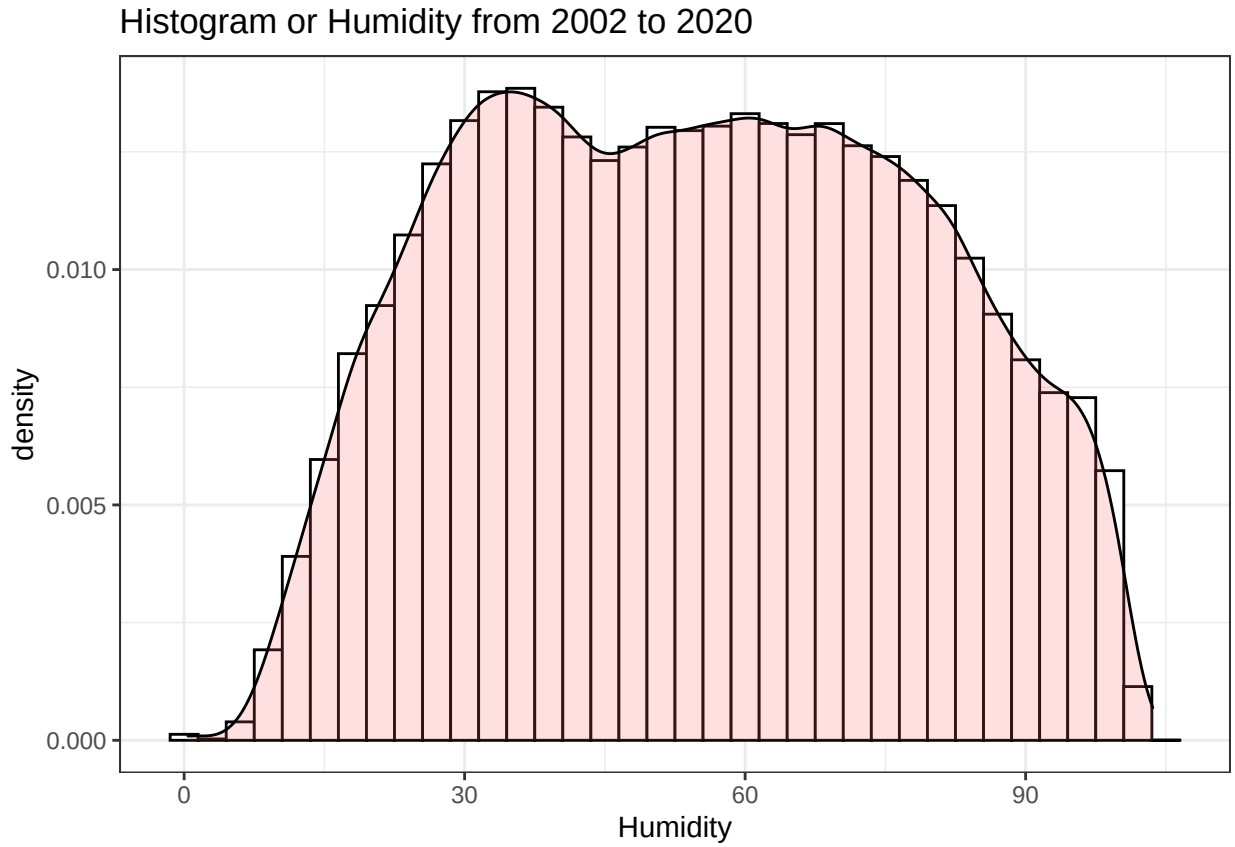



```
## `geom_smooth()` using formula 'y ~ x'
```



Now, we can see a pattern of average Temp by month through 20 years, we could see that during month 6 - 7 or June - July is the peak of the Temp. in Fort Collins.


Average_temperature
30
20
10
0
−10
−20
01
02
03
04
05
06
07
08
09
10
11
12
Month




```
## Warning: Use of ‘weather2022$GustMS‘ is discouraged. Use ‘GustMS‘ instead.

## Warning: Use of ‘weather2022$WindMS‘ is discouraged. Use ‘WindMS‘ instead.

## Warning: Use of ‘weather2022$‘Humidity > 50‘‘ is discouraged. Use ‘Humidity >
## 50‘ instead.

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```


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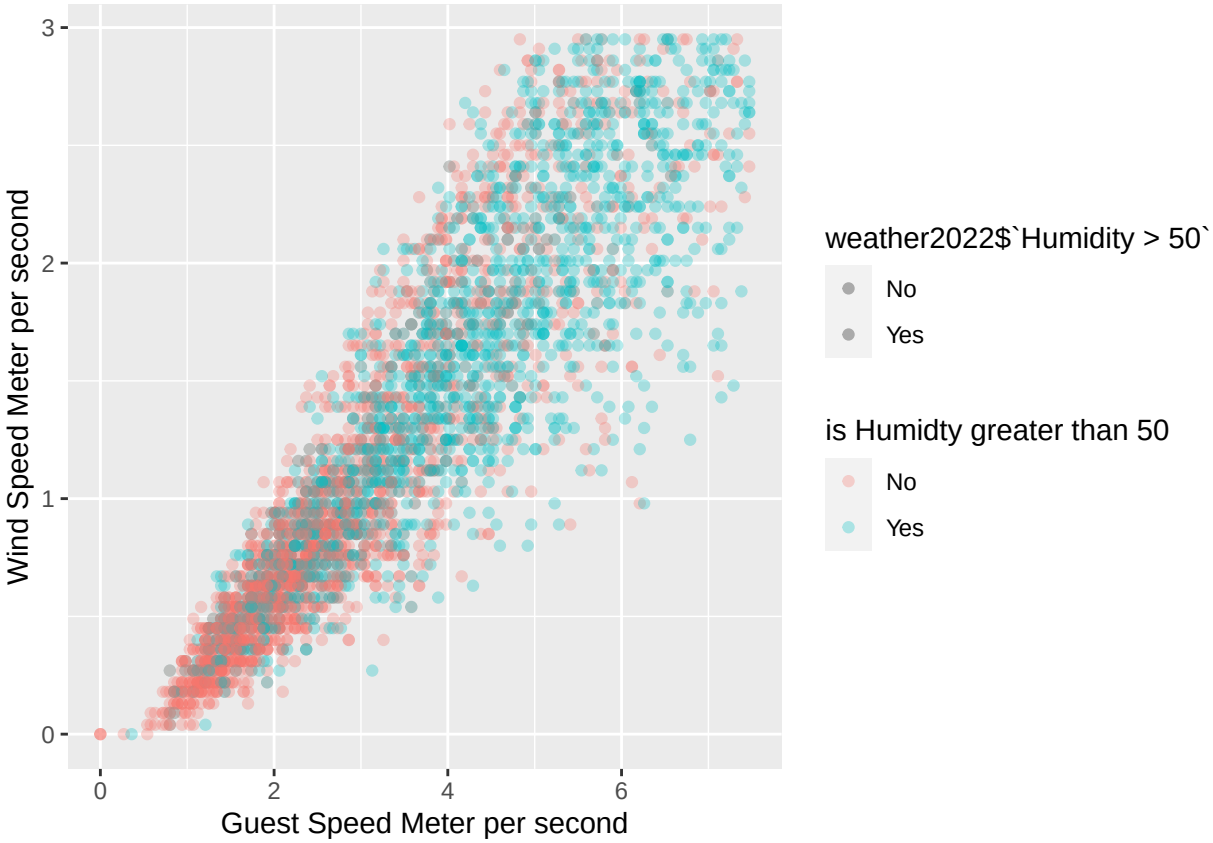
```


Wind Speed Meter per second
Guest Speed Meter per second
0
1
2
3
0
2
4
6
weather2022$`Humidity > 50`
No
Yes
is Humidty greater than 50
No
Yes