

MA615 HW2

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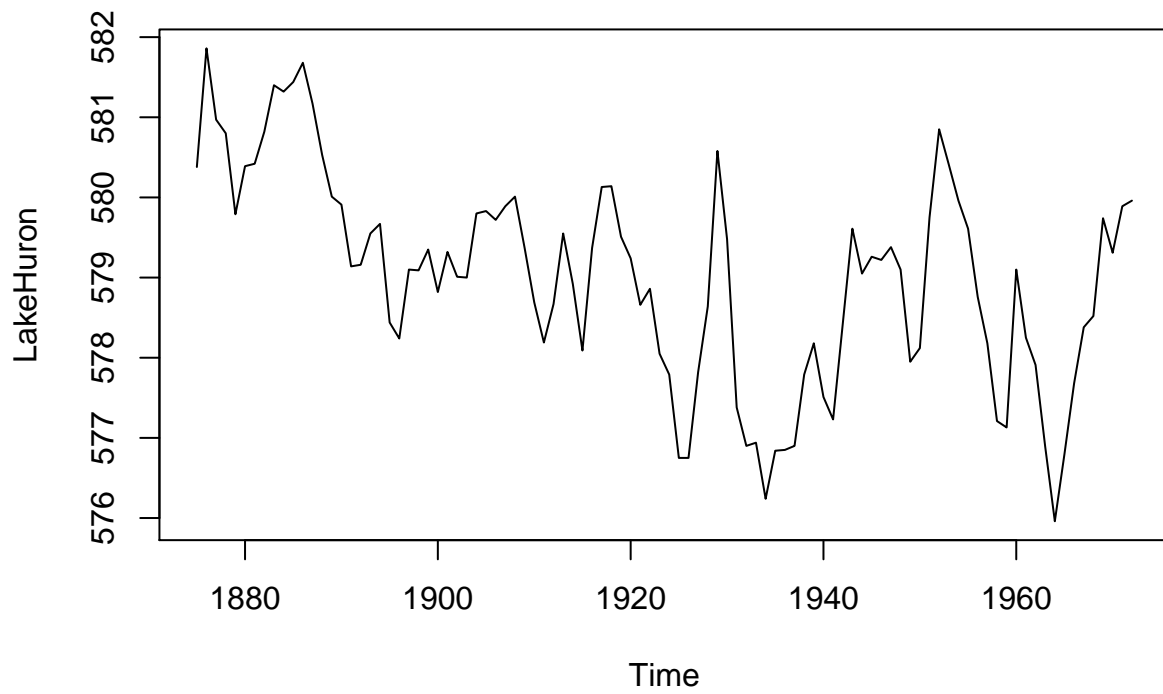
2018 M09 23

```
LakeHuron
```

```
## Time Series:
## Start = 1875
## End = 1972
## Frequency = 1
## [1] 580.38 581.86 580.97 580.80 579.79 580.39 580.42 580.82 581.40 581.32
## [11] 581.44 581.68 581.17 580.53 580.01 579.91 579.14 579.16 579.55 579.67
## [21] 578.44 578.24 579.10 579.09 579.35 578.82 579.32 579.01 579.00 579.80
## [31] 579.83 579.72 579.89 580.01 579.37 578.69 578.19 578.67 579.55 578.92
## [41] 578.09 579.37 580.13 580.14 579.51 579.24 578.66 578.86 578.05 577.79
## [51] 576.75 576.75 577.82 578.64 580.58 579.48 577.38 576.90 576.94 576.24
## [61] 576.84 576.85 576.90 577.79 578.18 577.51 577.23 578.42 579.61 579.05
## [71] 579.26 579.22 579.38 579.10 577.95 578.12 579.75 580.85 580.41 579.96
## [81] 579.61 578.76 578.18 577.21 577.13 579.10 578.25 577.91 576.89 575.96
## [91] 576.80 577.68 578.38 578.52 579.74 579.31 579.89 579.96
```

```
# we know the Time Series starts from 1875 to 1972
```

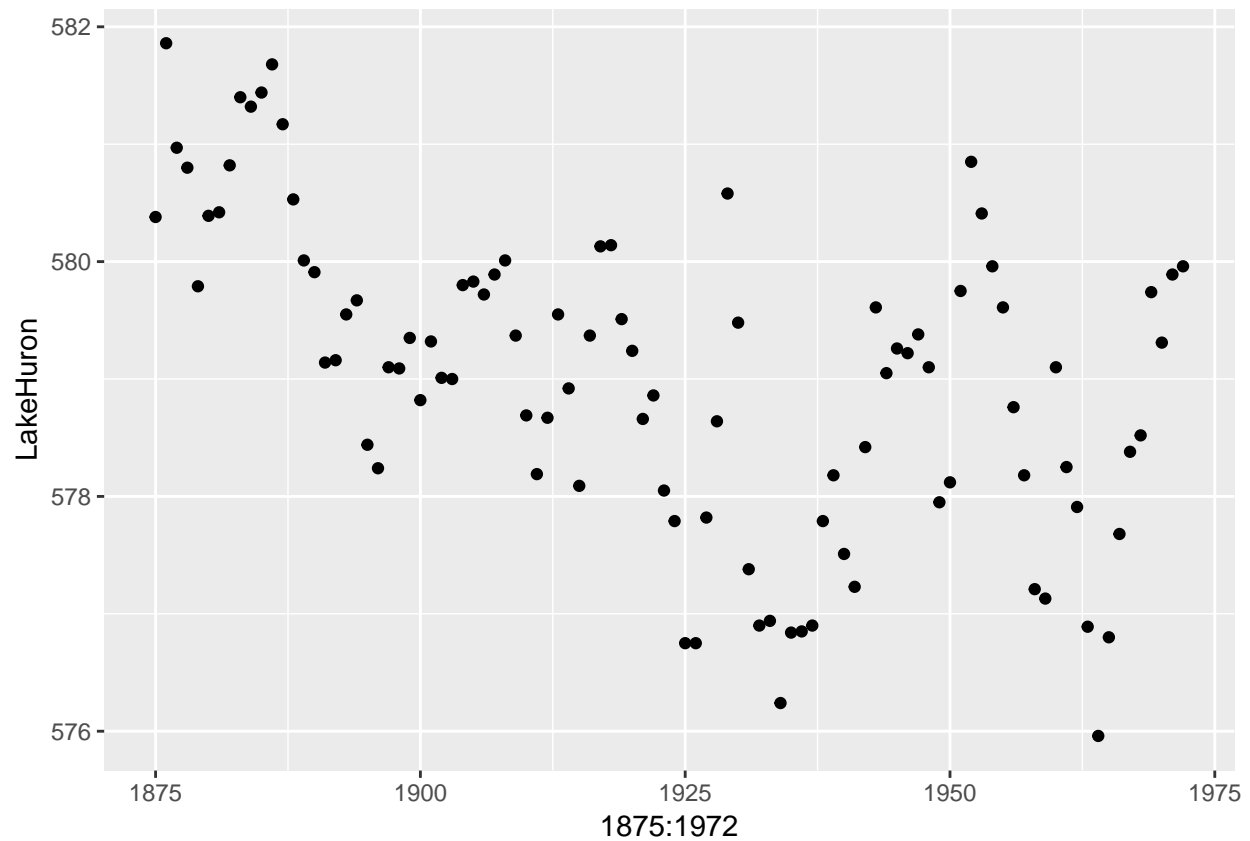
```
library(ggplot2)
#First we need to create a plot
plot(LakeHuron)
```



```
#Then we add the scatters
```

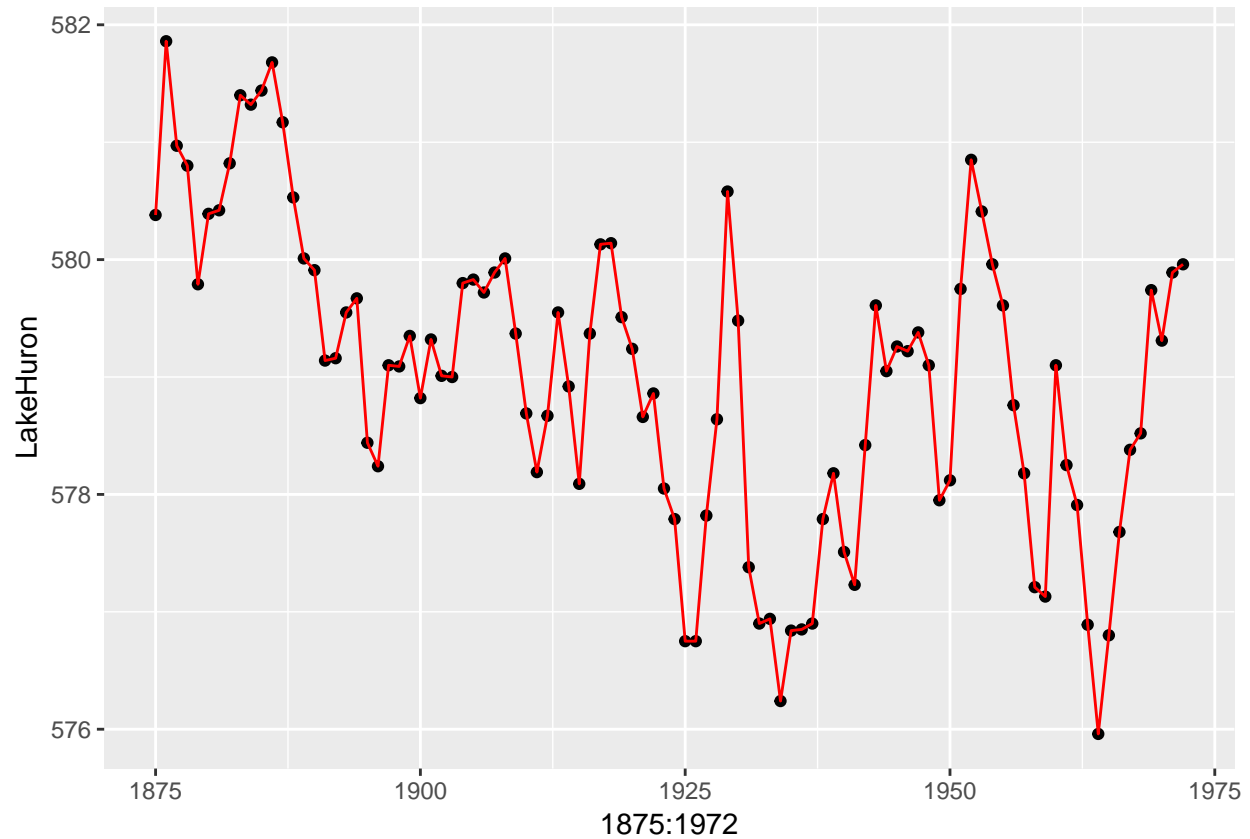
```
ggplot(data = as.data.frame(LakeHuron),mapping = aes(x=1875:1972,y=LakeHuron))+  
  geom_point()
```

```
## Don't know how to automatically pick scale for object of type ts. Defaulting to continuous.
```



```
#Then we add the line between these points like the shinyapp
ggplot(data = as.data.frame(LakeHuron),mapping = aes(x=1875:1972,y=LakeHuron))+
  geom_point()+
  geom_line(color="red")
```

```
## Don't know how to automatically pick scale for object of type ts. Defaulting to continuous.
```



```
#Finally, we add the smoother function to make the fitted line
ggplot(data = as.data.frame(LakeHuron), mapping = aes(x=1875:1972, y=LakeHuron)) +
  geom_point() +
  geom_line(color="gray") +
  geom_smooth(stat = "smooth", color="blue", se=F)
```

```
## Don't know how to automatically pick scale for object of type ts. Defaulting to continuous.
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

