

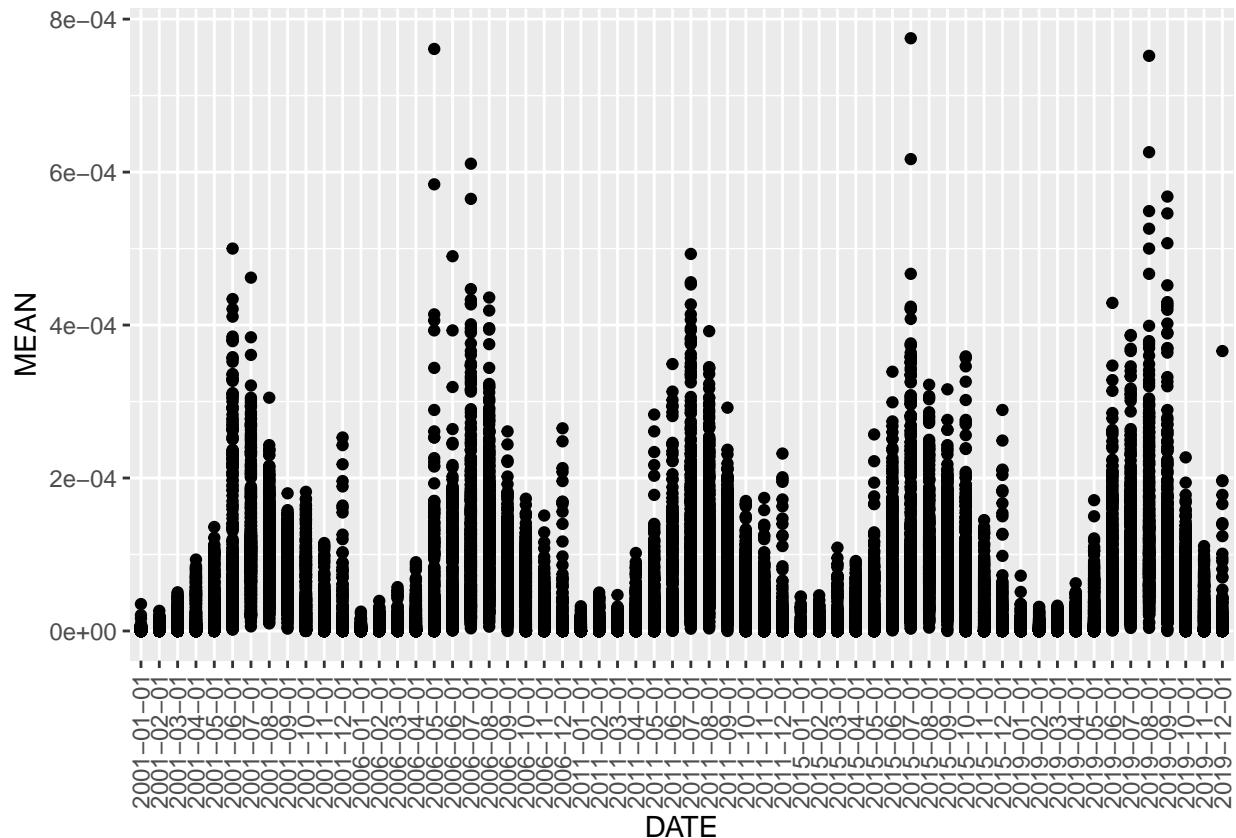
Gee Data Analysis

G25

18/11/2020

Reading Data

```
x <- read.csv("NEX_PREC.csv")  
  
p8 <- ggplot(x,aes(date,mean))  
p8 <- p8 + geom_point() + theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1))  
p8 <- p8 + geom_smooth(method = "lm")  
p8 <- p8 + xlab("DATE") + ylab("MEAN")  
print(p8)  
  
## 'geom_smooth()' using formula 'y ~ x'
```

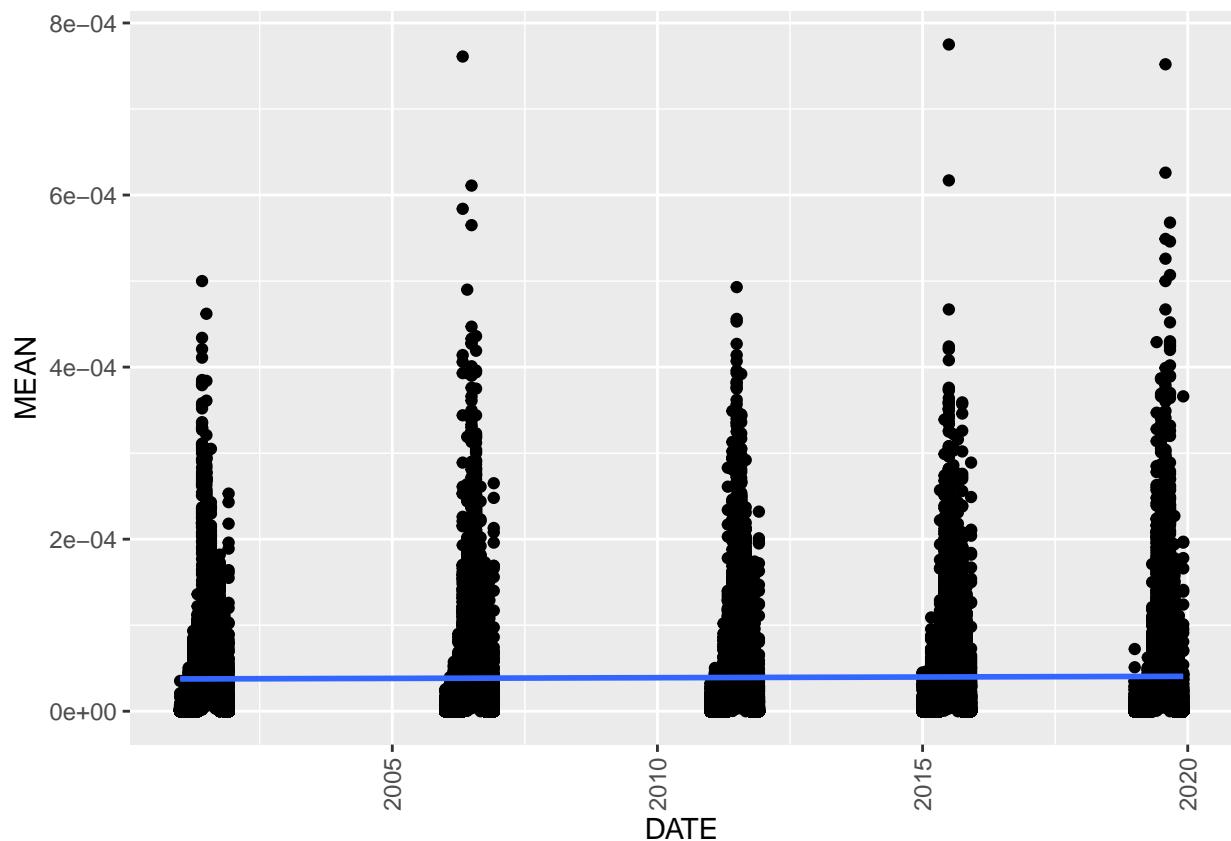


```

year <- as.numeric(format(as.Date(x$date), '%Y'))
x$year <- year
g <- ggplot(x,aes(date,mean))
g <- ggplot(x,aes(as.Date(date),mean))
p <- g + geom_point() + theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1))
p <- p + geom_smooth(method = "lm")
p <- p + xlab("DATE") + ylab("MEAN")
print(p)

```

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

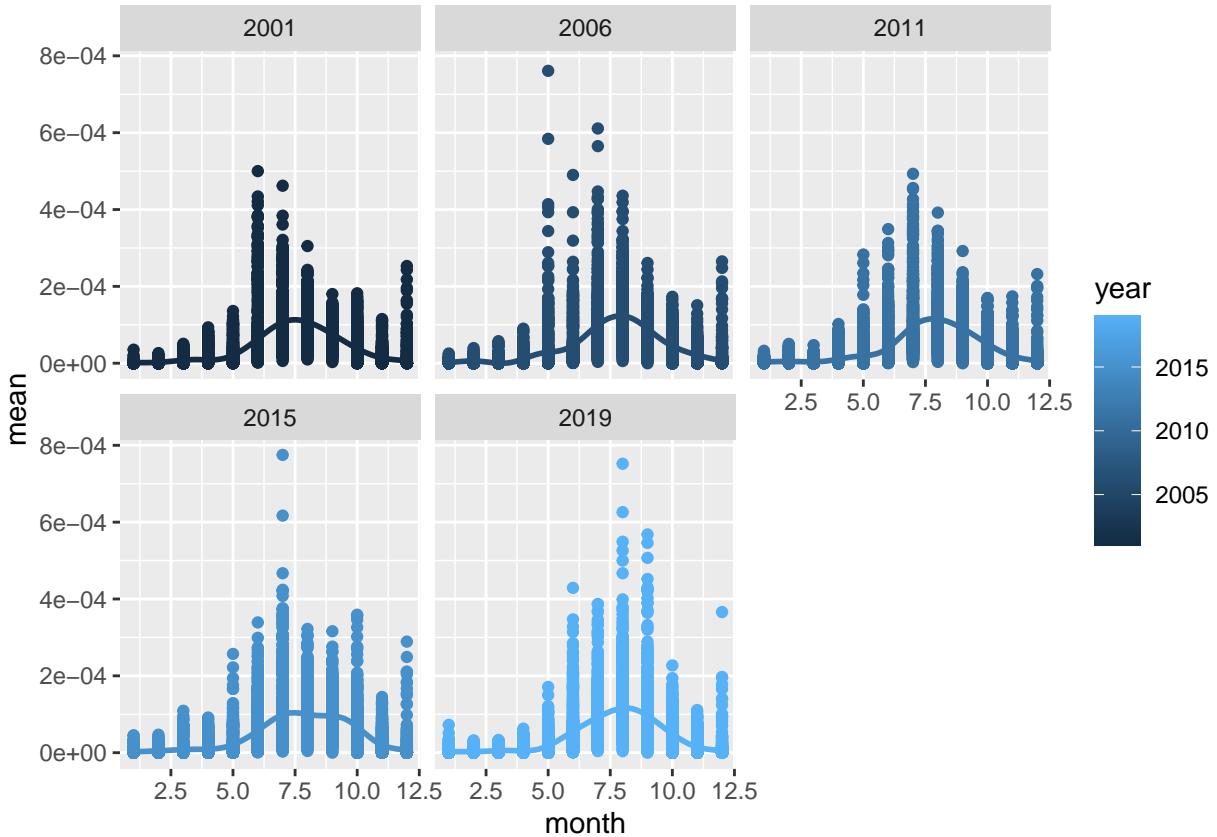


```

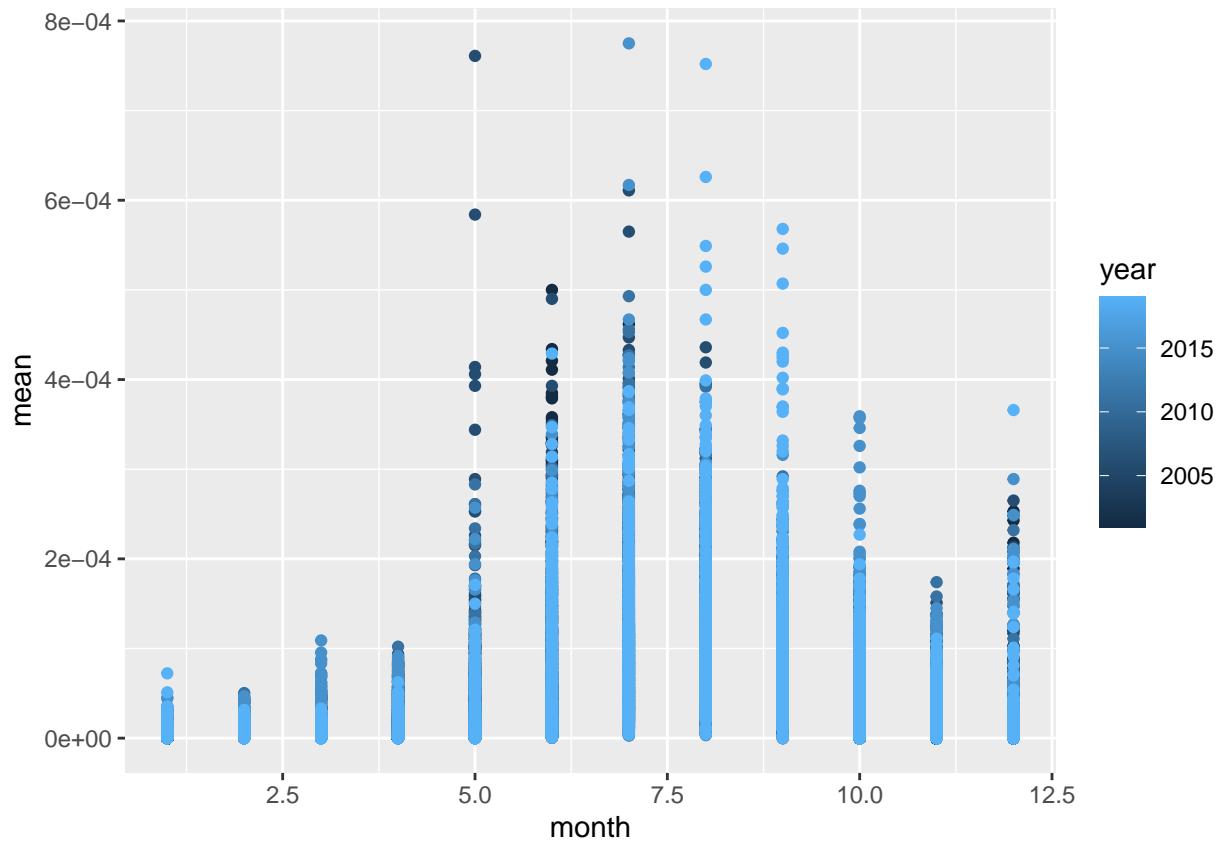
month <- month(x$date)
x$month <- month
p2 <- ggplot(x,aes(month,mean,color = year))
p2 <- p2 + geom_point() + geom_smooth() + facet_wrap(~year)
print(p2)

```

`geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'

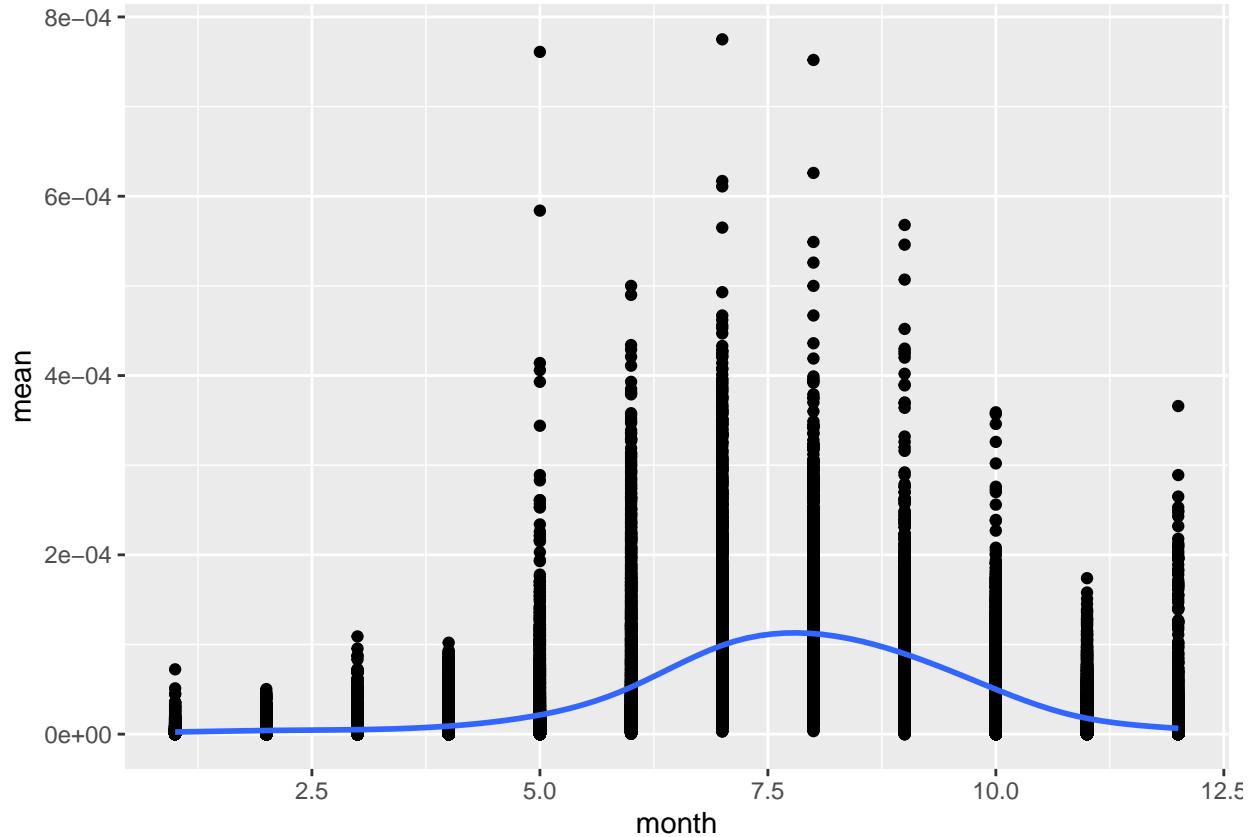


```
p2 <- ggplot(x,aes(month,mean,color = year))
p2 <- p2 + geom_point()
print(p2)
```



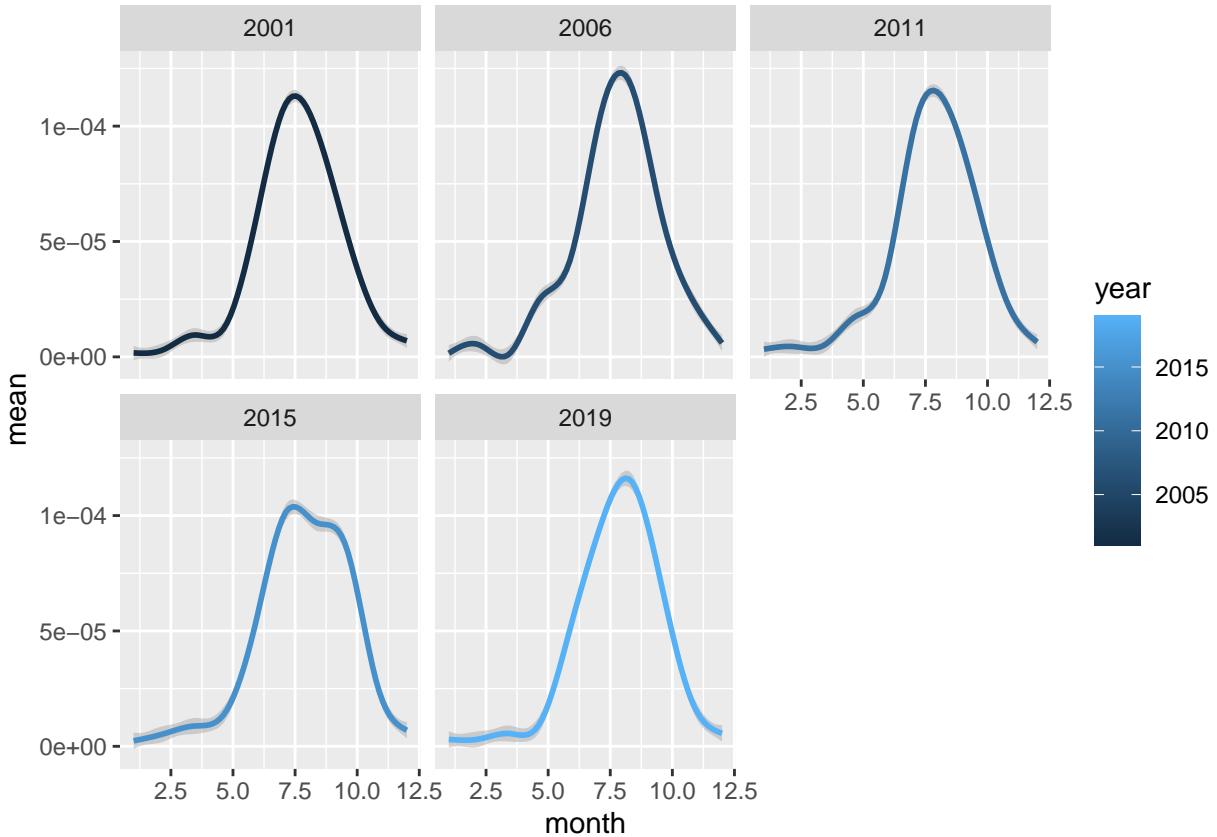
```
p2 <- ggplot(x,aes(month,mean))
p2 <- p2 + geom_point() + geom_smooth()
print(p2)
```

```
## `geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'
```



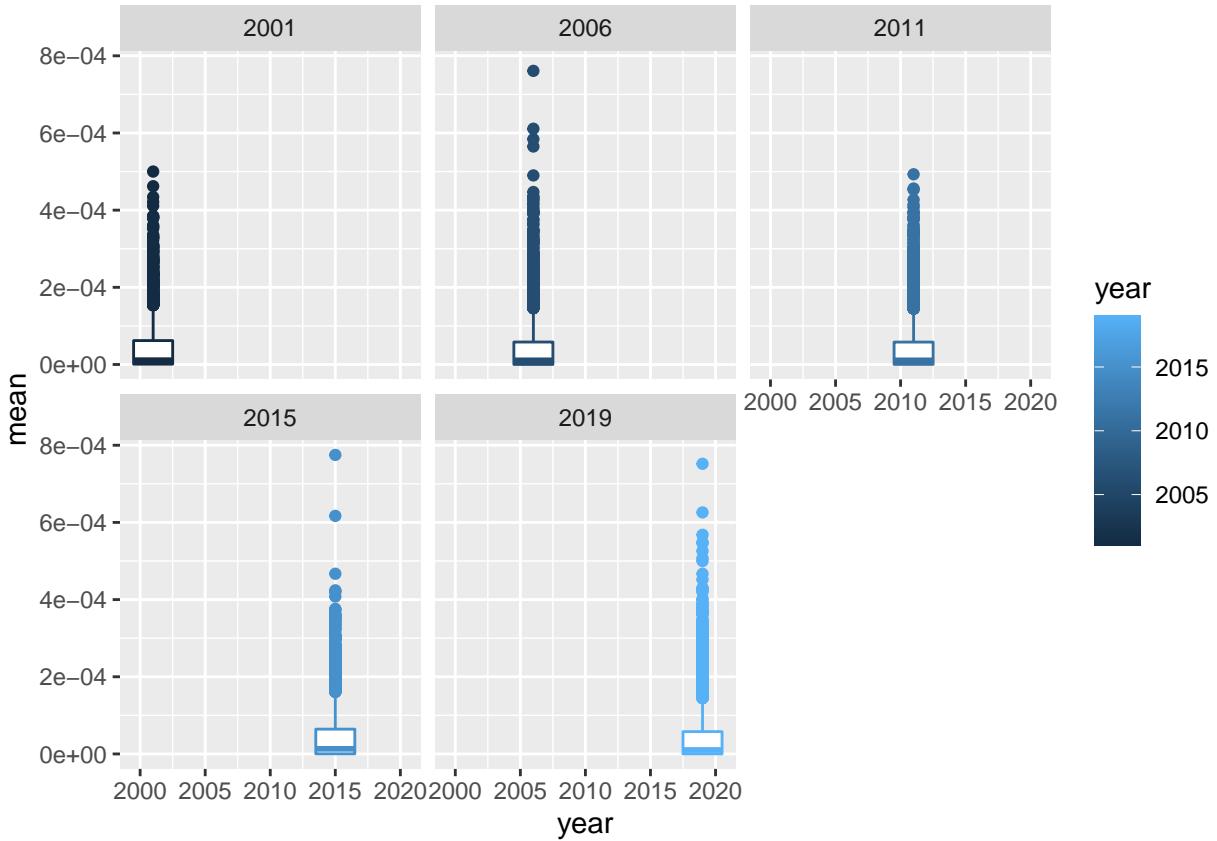
```
p7 <- ggplot(x,aes(month,mean,color = year))
p7 <- p7 + geom_smooth() + facet_wrap(~year)
print(p7)
```

```
## `geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'
```

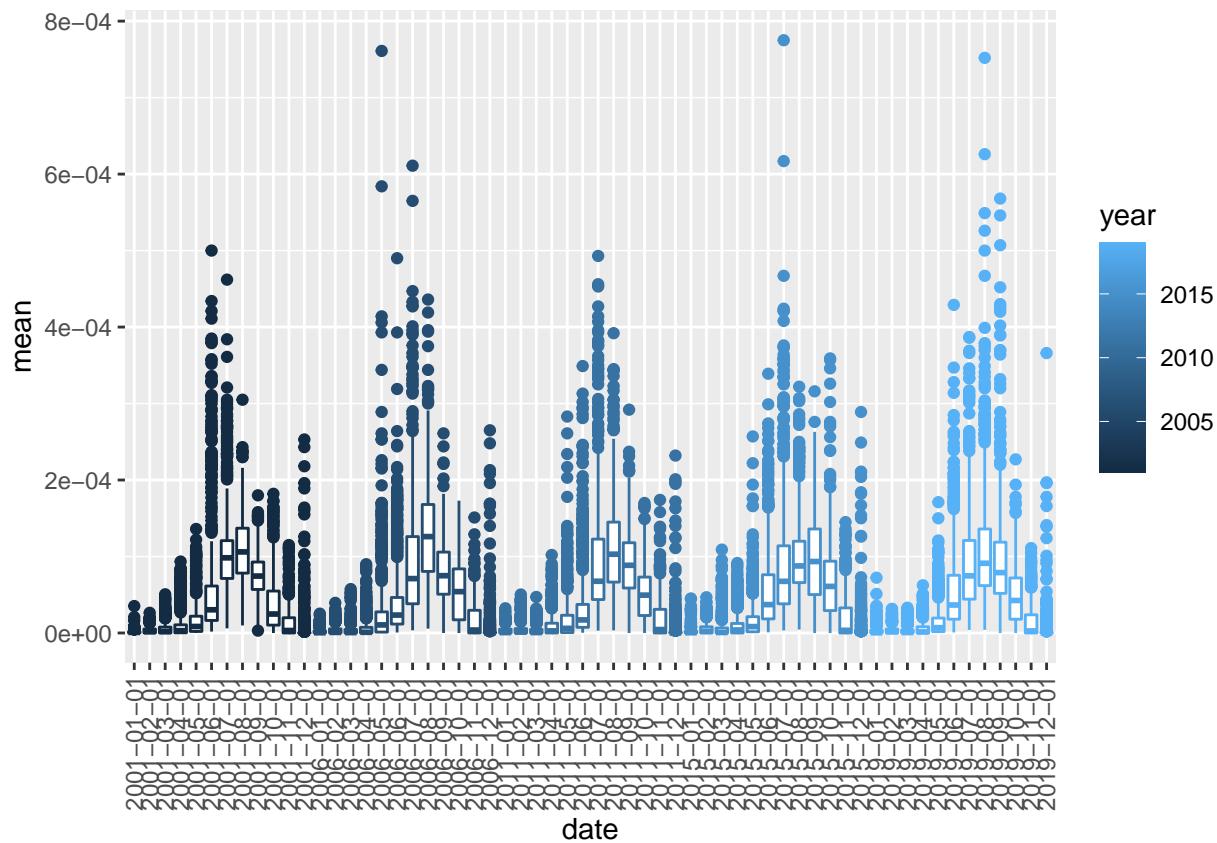


```
p3 <- ggplot(x,aes(year,mean,color = year)) + geom_boxplot() + facet_wrap(~year)
print(p3)
```

```
## Warning: Continuous x aesthetic -- did you forget aes(group=...)?
```

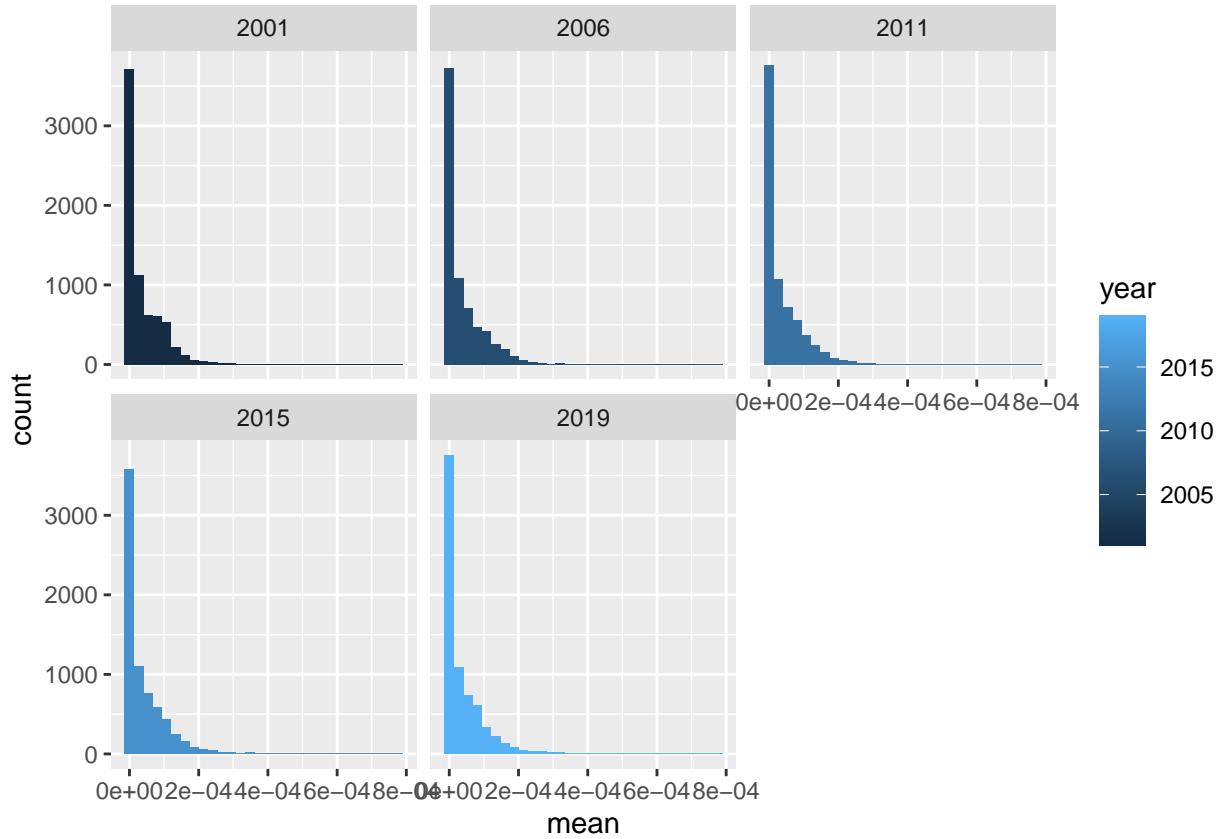


```
p4 <- ggplot(x,aes(date,mean,color = year)) + geom_boxplot()
p4 <- p4 + theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1))
print(p4)
```



```
p5 <- ggplot(x,aes(x = mean,fill = year)) + geom_histogram() + facet_wrap(~year)
print(p5)
```

‘stat_bin()’ using ‘bins = 30’. Pick better value with ‘binwidth’.



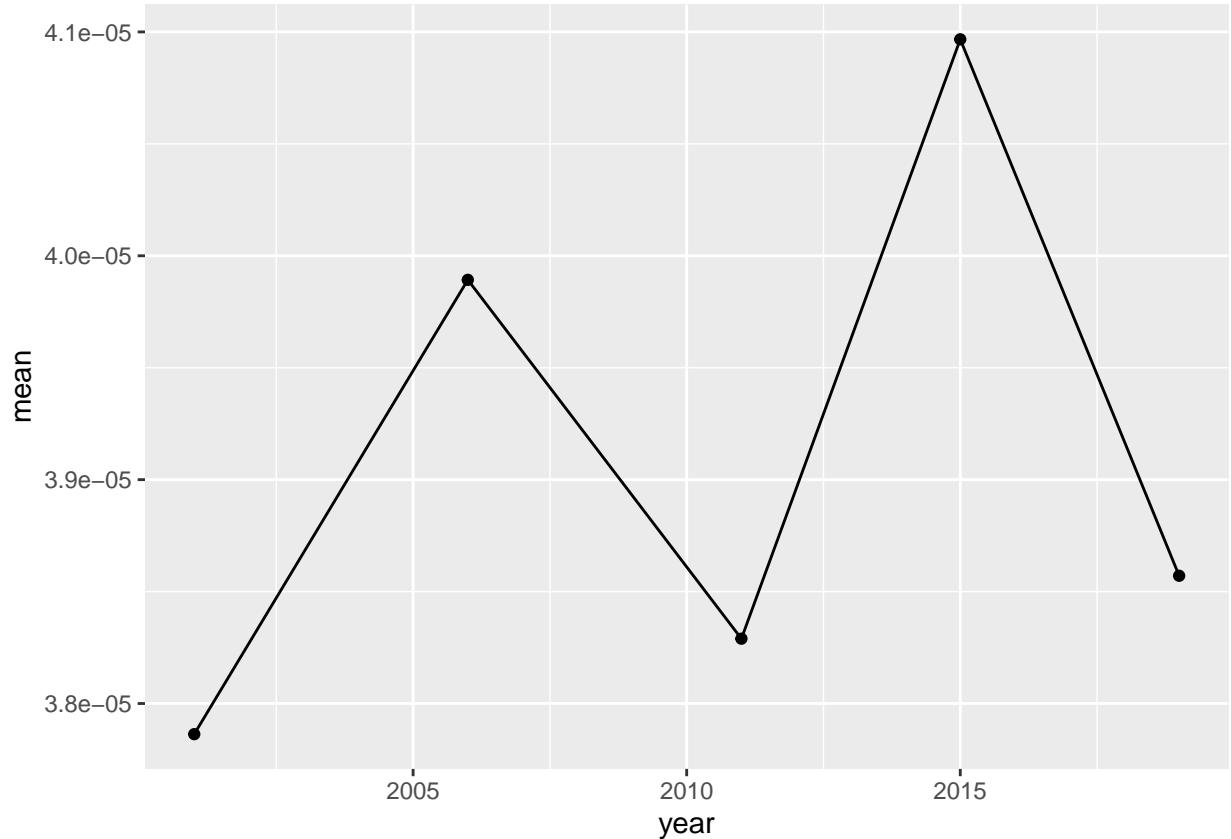
```

y1_m1 = mean(x$mean[year==2001])
y2_m2 = mean(x$mean[year==2006])
y3_m3 = mean(x$mean[year==2011])
y4_m4 = mean(x$mean[year==2015])
y5_m5 = mean(x$mean[year==2019])

temp = c(y1_m1,y2_m2,y3_m3,y4_m4,y5_m5)
mean_f = data.frame(mean = temp,year = c(2001,2006,2011,2015,2019))

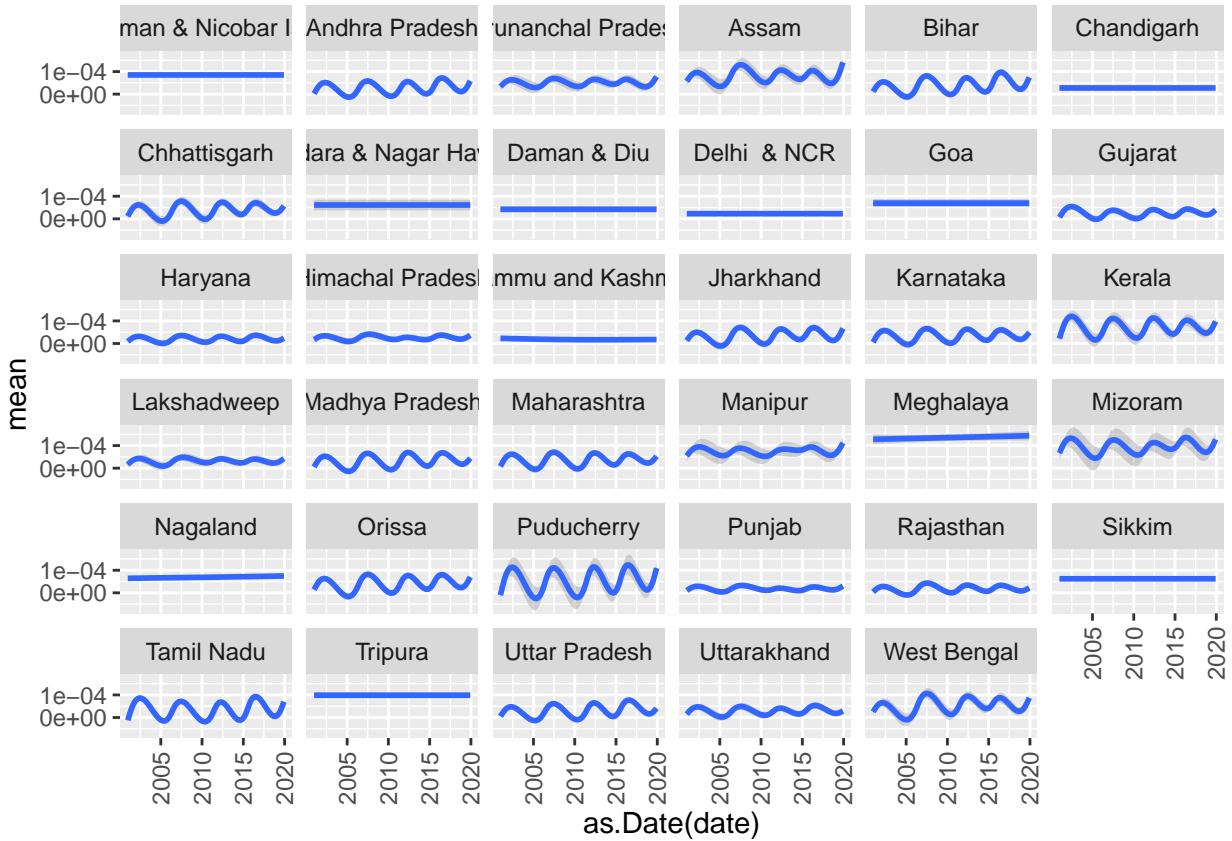
p6 <- ggplot(mean_f,aes(year,mean)) +geom_point() + geom_line()
print(p6)

```



```
p9 <- ggplot(x,aes(as.Date(date),mean))  
p9 <- p9 + geom_smooth() + facet_wrap(~ST_NM) + theme(axis.text.x = element_text(angle = 90, vjust = 0.5))  
print(p9)
```

```
## 'geom_smooth()' using method = 'gam' and formula 'y ~ s(x, bs = "cs")'
```



```
p10 <- ggplot(x,aes(as.Date(date),mean,color = ST_NM))
p10 <- p10 + geom_point() + facet_wrap(~ST_NM)
p10 <- p10 + theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1),legend.position = "none")
print(p10)
```

