

2019-08-22-hatch-gaslab-logs-compiled

Michael J. Braus

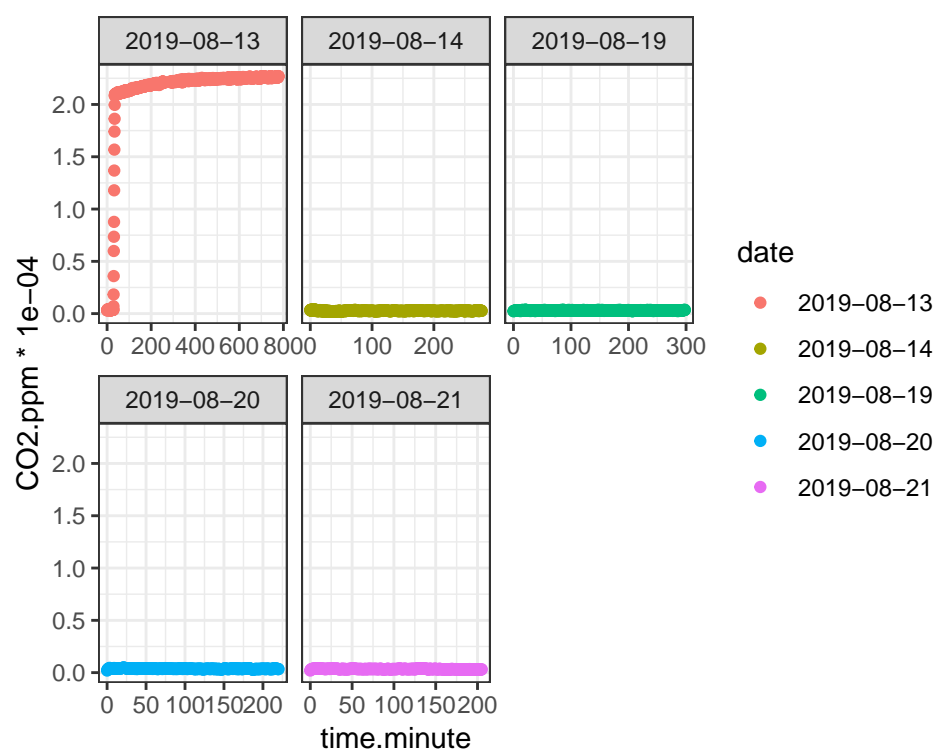
2019-08-23

Contents

```
library(ggplot2)
dat <- read.csv("2019-08-22-hatch-gaslab-logs-compiled.csv", header=T)
dat$time.minute <- dat$time.second/60
dat$CO2.ppm <- as.numeric(dat$CO2.ppm)
str(dat)
```

```
## 'data.frame':   3556 obs. of  6 variables:
## $ location    : Factor w/ 3 levels "chamber","laboratory",...: 1 1 1 1 1 1 1 1 1 1 ...
## $ date        : Factor w/ 5 levels "2019-08-13","2019-08-14",...: 1 1 1 1 1 1 1 1 1 1 ...
## $ time.real   : Factor w/ 3492 levels "10:00:05.557",...: 3356 3360 3364 3368 3372 3376 3380 3384 3388 ...
## $ time.second: int   0 30 60 90 120 150 180 210 240 270 ...
## $ time.minute: num    0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 ...
## $ CO2.ppm     : num   310 320 320 340 370 370 420 390 370 380 ...
```

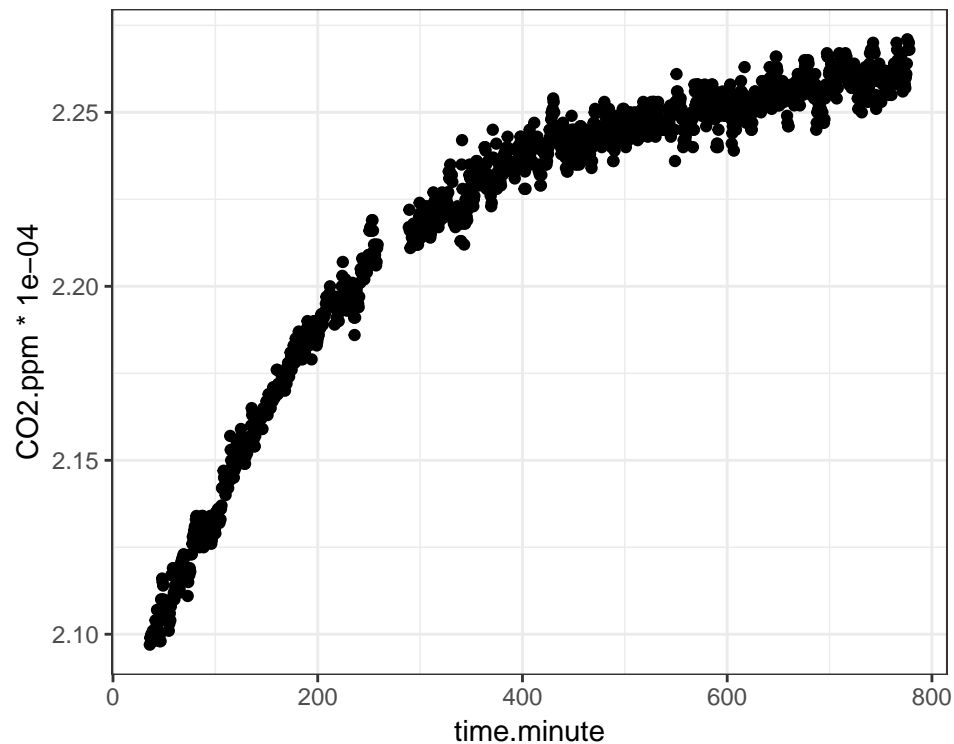
```
p <- ggplot(dat, aes(x = time.minute, y = CO2.ppm*0.0001, color = date))
p + geom_point() + facet_wrap(~date, scales="free_x") + theme_bw()
```



Here is just the day of the high-CO2 chamber (2019-08-13):

```
dat.highco2 <- subset(dat, date=="2019-08-13")
dat.highco2 <- subset(dat.highco2, CO2.ppm>20900)
```

```
p <- ggplot(dat.highco2, aes(x = time.minute, y = CO2.ppm*0.0001))
p + geom_point() + theme_bw()
```



```
mean(dat.highco2$CO2.ppm) # ppm CO2
```

```
## [1] 22187.42
```

```
sd(dat.highco2$CO2.ppm) # ppm CO2
```

```
## [1] 451.4495
```

```
mean(dat.highco2$CO2.ppm*0.0001) # percent CO2
```

```
## [1] 2.218742
```

```
sd(dat.highco2$CO2.ppm*0.0001) # percent CO2
```

```
## [1] 0.04514495
```

```
mean(dat.highco2$CO2.ppm)/415 # fold change relative to 415 ppm
```

```
## [1] 53.46367
```