Raspberry Pi Analysis

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Read Data (csv, fix dates, and subset to pm25)

Find the path to the data and read the csv

```
filepath.csv <- "/home/mwl04747/beginnersluck/EA30SP25/RPi_corrected.csv"

rpidata = read.csv(filepath.csv)

str(rpidata)
```

```
## 'data.frame':    597706 obs. of  6 variables:
##  $ Datetime          : chr  "2025-03-05 15:35:00" "2025-03-05 15:44:00" "2025-03-05 15:44:00" "2025-0
##  $ Datetime_corrected: chr  "2025-03-05 12:28:00" "2025-03-05 12:37:00" "2025-03-05 12:37:00" "2025-0
##  $ Param             : chr  "START" "temp:" "pres:" "humi:" ...
##  $ Value             : num  0 20.1 969.7 46.8 1 ...
##  $ Units             : chr  "" "Â°C" "hPa" "%" ...
##  $ ID                : chr  "PiZ1" "PiZ1" "PiZ1" "PiZ1" ...
```

```
head(rpidata)
```

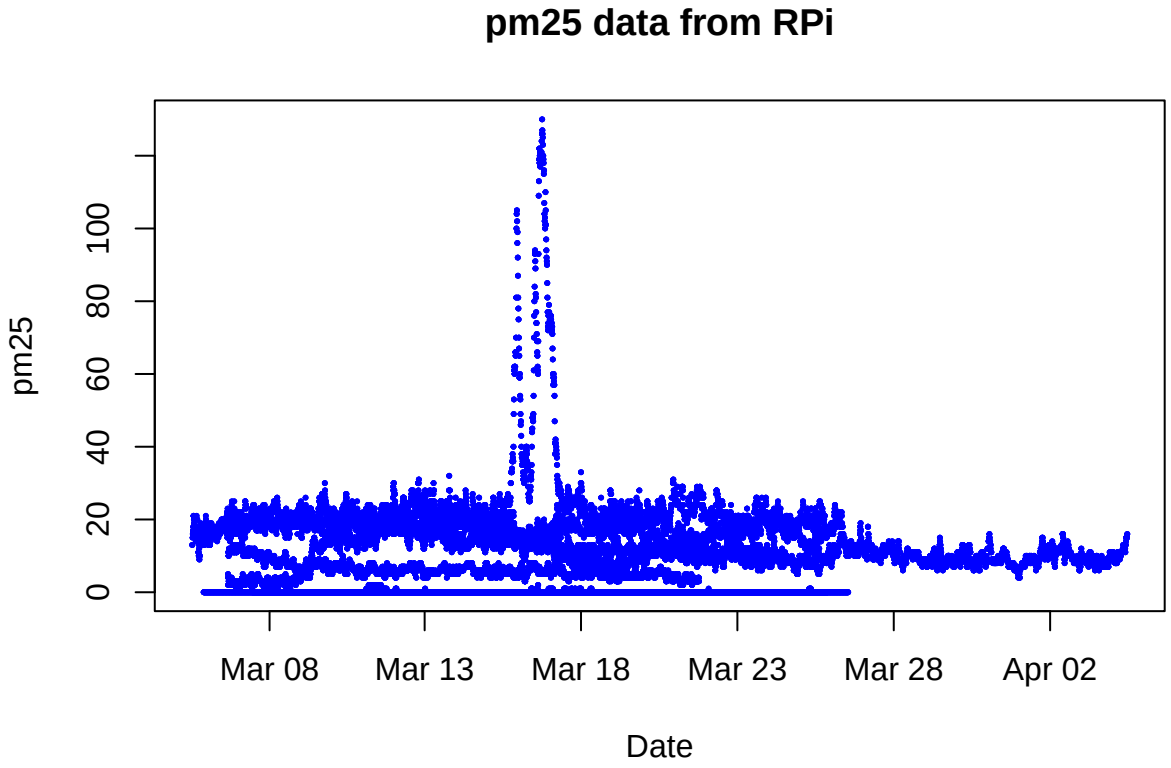
```
##              Datetime  Datetime_corrected Param Value Units   ID
## 1 2025-03-05 15:35:00 2025-03-05 12:28:00 START   0.0       PiZ1
## 2 2025-03-05 15:44:00 2025-03-05 12:37:00 temp:  20.1   Â°C PiZ1
## 3 2025-03-05 15:44:00 2025-03-05 12:37:00 pres: 969.7   hPa PiZ1
## 4 2025-03-05 15:44:00 2025-03-05 12:37:00 humi:  46.8     % PiZ1
## 5 2025-03-05 15:44:00 2025-03-05 12:37:00 ligh:   1.0   Lux PiZ1
## 6 2025-03-05 15:44:00 2025-03-05 12:37:00 oxid:  12.0    kO PiZ1
```

```
rpidata$Date <- as.POSIXct(rpidata$Datetime_corrected, format = "%Y-%m-%d %H:%M:%S")

rpidata_pm25 <- subset(rpidata, subset = Param == "pm25:")
```

Plot pm25 data

```
plot(Value ~ Date, rpidata_pm25, type = "p", col = "blue", lwd = 2, xlab = "Date", ylab = "pm25", main =
```


pm25 data from RPi
pm25
0
20
40
60
80
100
Mar 08
Mar 13
Mar 18
Mar 23
Mar 28
Apr 02
Date