

IBM cloud command line output:

```
MariaDB [(none)]> source /home/2018/spring/nyu/6513/xb306/HW1/hw1-sql.sql
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

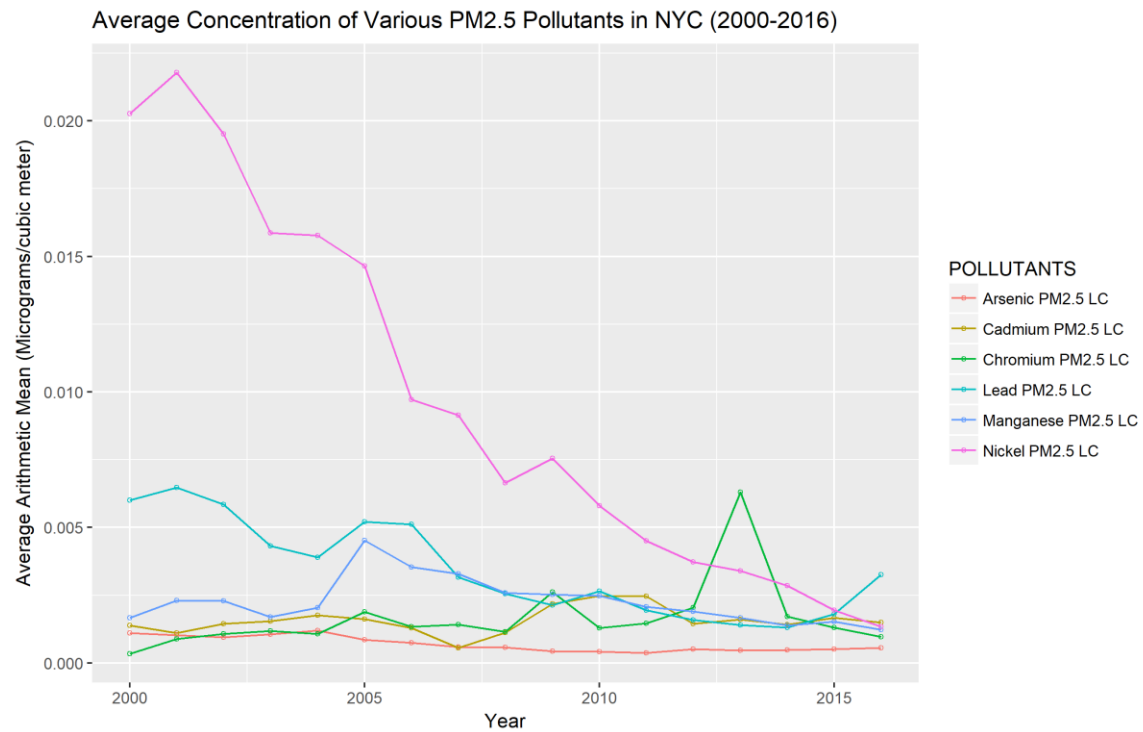
Database changed
Query OK, 0 rows affected, 1 warning (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

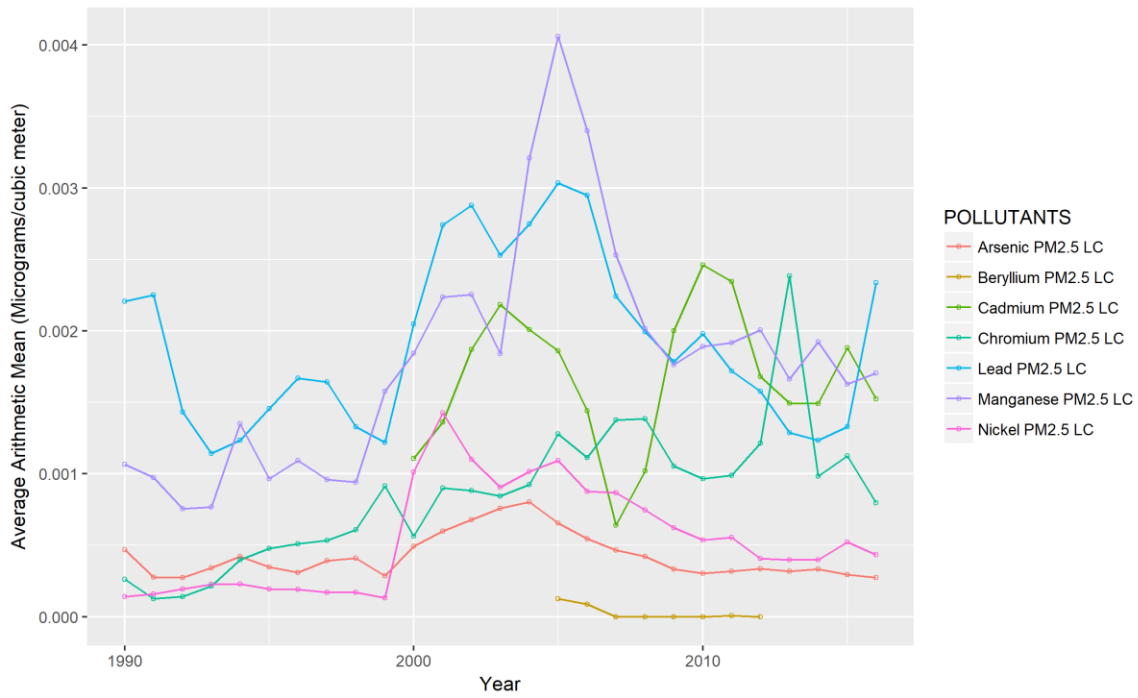
Query OK, 8097069 rows affected (1 min 50.68 sec)
Records: 8097069 Deleted: 0 Skipped: 0 Warnings: 0

[xb306@F4Linux1 ~]$ Rscript /home/2018/spring/nyu/6513/xb306/HW1/hw1-r.R
Loading required package: DBI
Loading required package: methods
Saving 7 x 7 in image
Saving 7 x 7 in image
Saving 7 x 7 in image
Saving 7 x 7 in image
[xb306@F4Linux1 ~]$
```

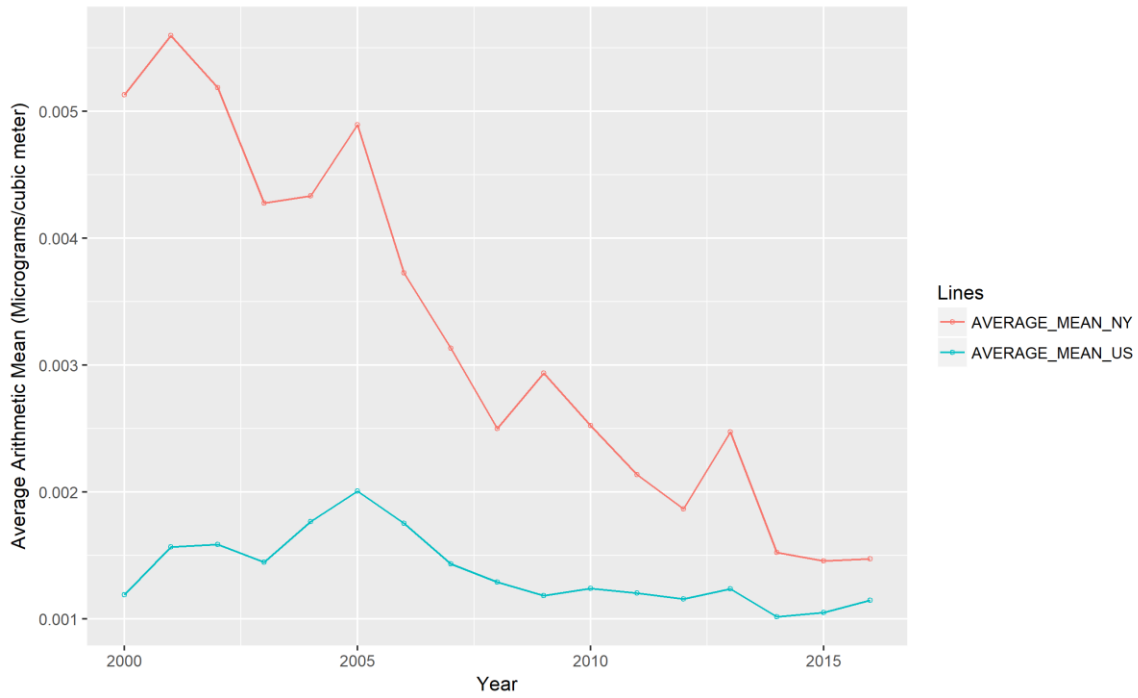
Plots (saved in current directory & /home/2018/spring/nyu/6513/xb306/HW1/plots/):



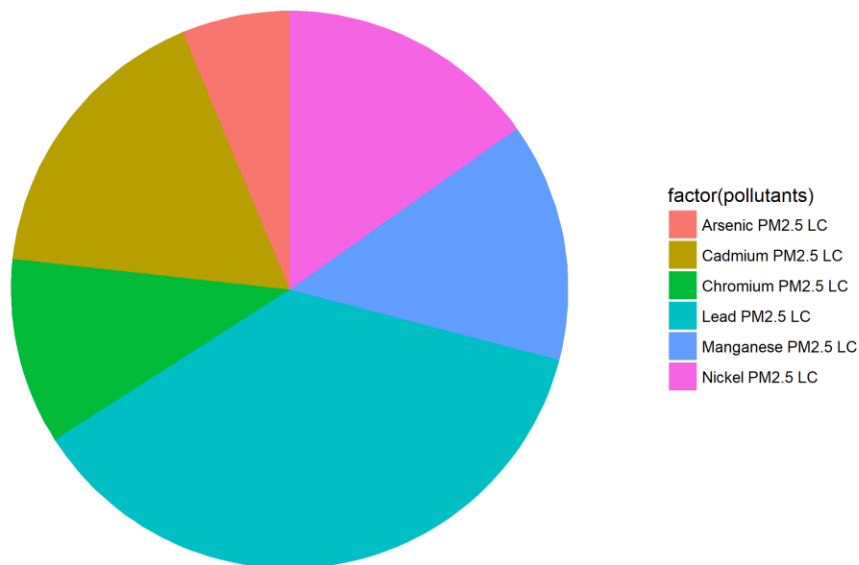
Average Concentration of Various PM2.5 Pollutants in US (1990-2017)



Overall Average Concentration of PM2.5 Pollutants in US vs NYC (2000-2016)



Proportion of PM2.5 Pollutants in New York in 2016



## Reference

<http://www.sthda.com/english/wiki/ggplot2-pie-chart-quick-start-guide-r-software-and-data-visualization>

<http://programminghistorian.github.io/ph-submissions/lessons/getting-started-with-mysql-using-r>

<https://www.kaggle.com/epa/hazardous-air-pollutants/version/1>

<https://stackoverflow.com/questions/18503177/r-apply-function-on-specific-dataframe-columns>

<https://stackoverflow.com/questions/33594642/beautiful-pie-charts-with-r/>

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