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1 Ideas, To Do, Resources, etc

<http://science.sciencemag.org/content/313/5789/940><http://www.pnas.org/content/108/32/13165>
<http://rstb.royalsocietypublishing.org/content/371/1696/20150178>[http://fam.nwcg.gov/fam-web/weatherfired/](http://fam.nwcg.gov/fam-web/weatherfired/fire_files.htm)
<http://fam.nwcg.gov/fam-web/kcfast/mnmenu.htm><http://www.nifc.gov>

http://nationalmap.gov/small_scale/atlasftp.html

https://daac.ornl.gov/cgi-bin/dsviewer.pl?ds_id=1293

https://www.fs.fed.us/psw/publications/4451/psw_2009_4451-001.pdf

<https://labcit.ligo.caltech.edu/~ethrane/Resources/UNIX/>

<https://community.tableau.com/thread/141548>

?

<https://gis.stackexchange.com/questions/664/whats-the-difference-between-a-projection-and-a-datum>
<http://resources.esri.com/help/9.3/arcgisengine/dotnet/89b720a5-7339-44b0-8b58-0f5bf2843393.htm>
<http://grindgis.com/blog/wgs84-vs-nad83>

https://www.nifc.gov/fireInfo/fireInfo_statistics.html

2 PM2.5 Surface Paper Notes

2.1 Papers published in Atmospheric Environment - use as style example

3 Papers to cite/discuss in Introduction and/or Discussion

3.1 Notes on Papers

4 Fire attribution paper

5 Data Sources for Machine Learning

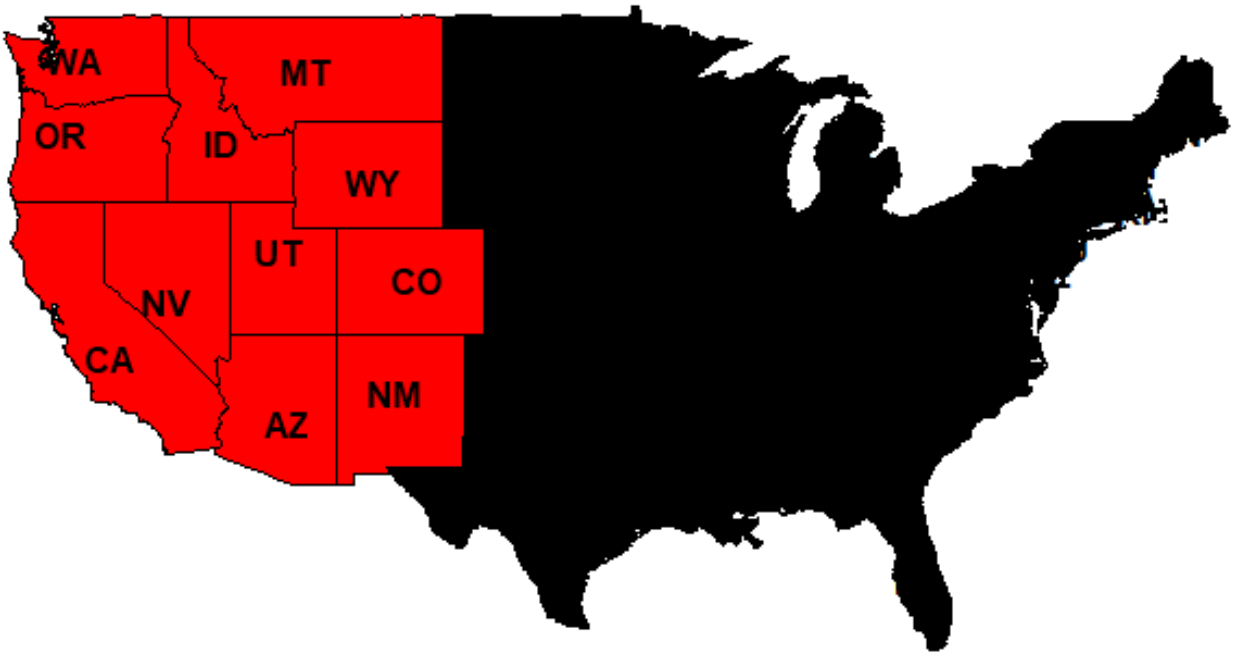


Figure 1: Map of 11-state study area.

All PM2.5 Monitor Locations

All PM2.5 Observation Locations

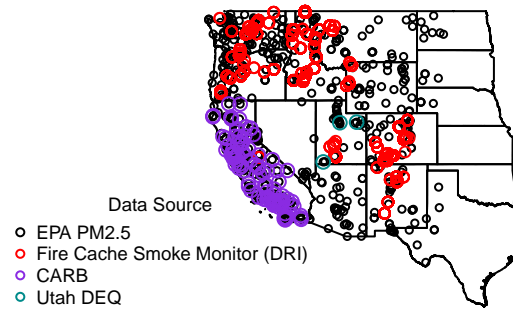


Figure 2: Map of locations of PM2.5 observations for entire study period, 2008 to 2014.

PM2.5 Observation Locations, 2008

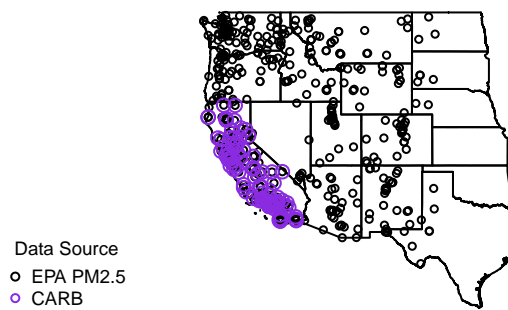


Figure 3: Map of locations of PM2.5 observations during 2008.

PM2.5 Observation Locations, 2009

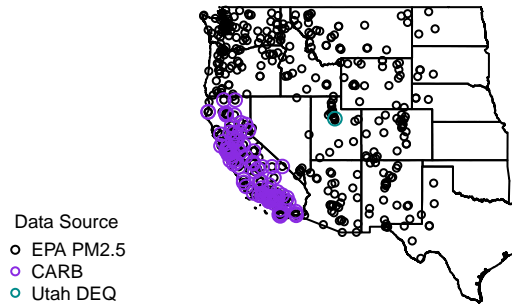


Figure 4: Map of locations of PM2.5 observations during 2009.

PM2.5 Observation Locations, 2010

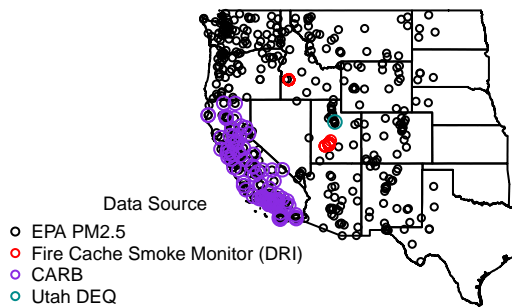


Figure 5: Map of locations of PM2.5 observations during 2010.

PM2.5 Observation Locations, 2011

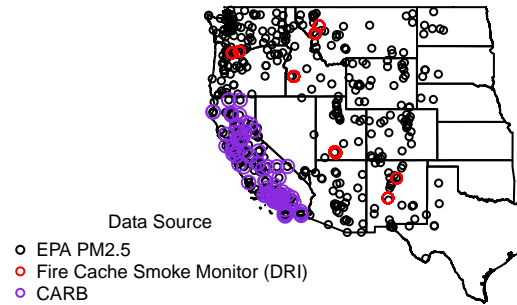


Figure 6: Map of locations of PM2.5 observations during 2011.

PM2.5 Observation Locations, 2012

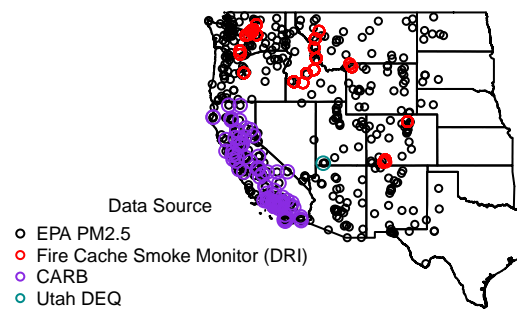


Figure 7: Map of locations of PM2.5 observations during 2012.

PM2.5 Observation Locations, 2013

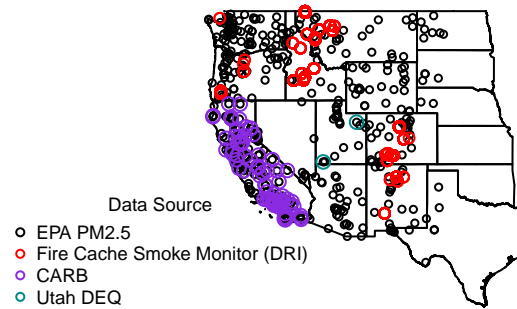


Figure 8: Map of locations of PM2.5 observations during 2013.

PM2.5 Observation Locations, 2014

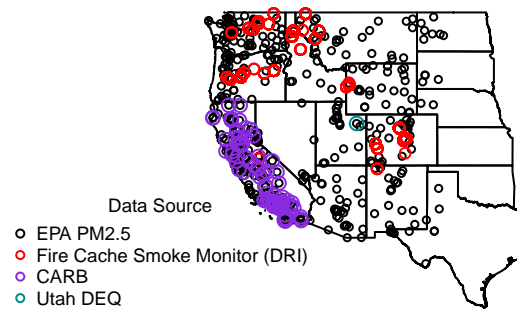


Figure 9: Map of locations of PM2.5 observations during 2014.

5.1 PM2.5 Monitor data from US EPA AQS Air Data Query Tool

Data Source

<https://www.epa.gov/outdoor-air-quality-data/forms/contact-us-about-outdoor-air-quality-data>

https://aqs.epa.gov/aqsweb/airdata/download_files.html#Daily

https://aqs.epa.gov/aqsweb/airdata/aqs_monitors.ziphttps://aqs.epa.gov/aqsweb/airdata/download_files.html#Meta

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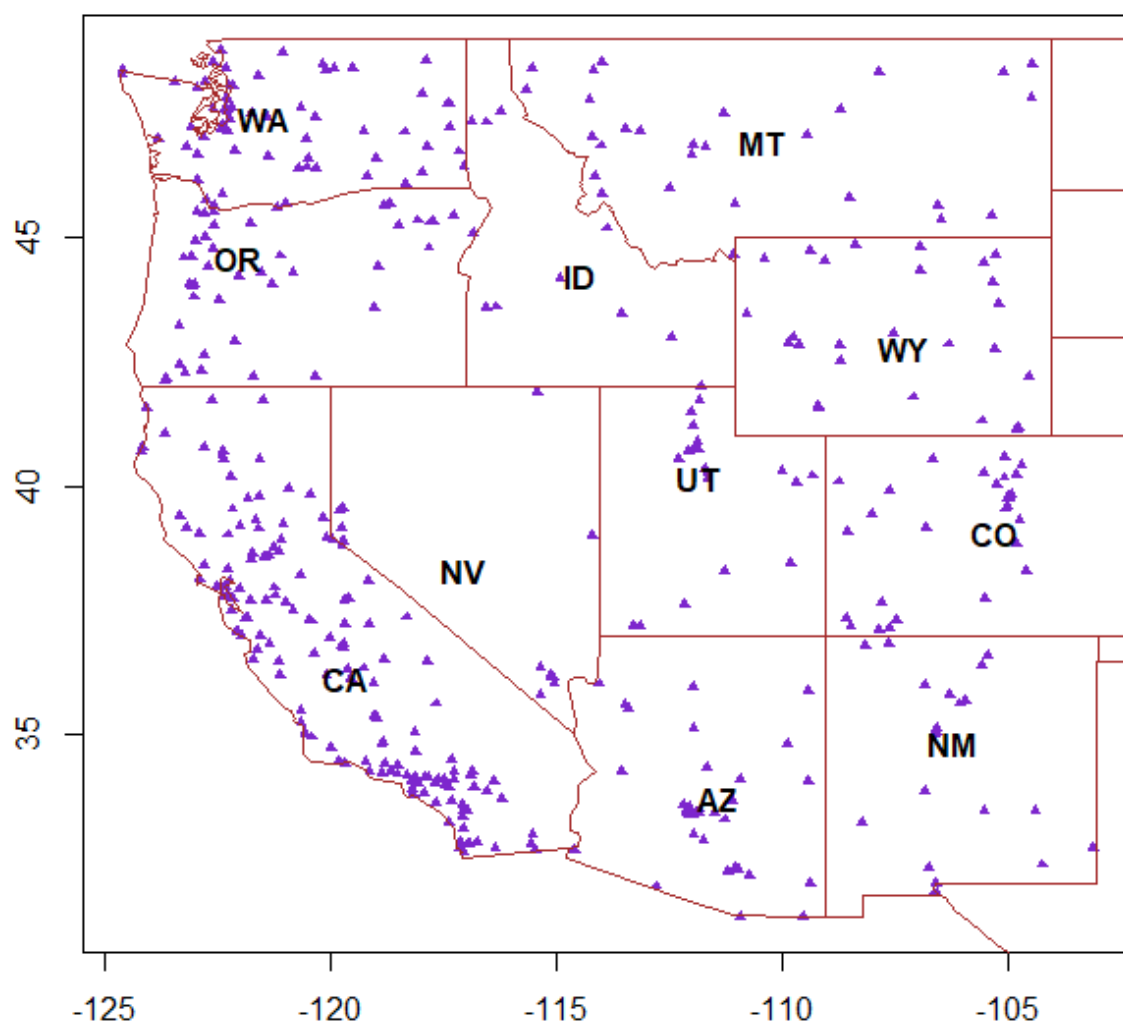


Figure 10: Map of 88101 and 88502 PM_{2.5} Monitors.

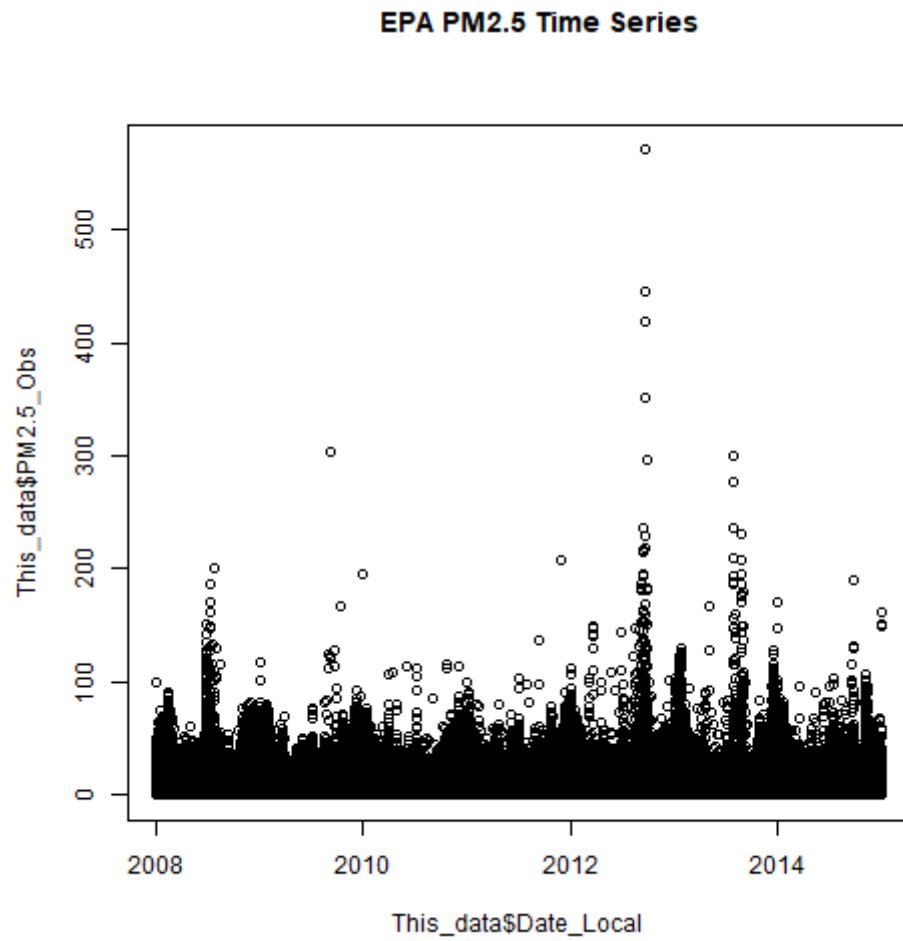


Figure 11: EPA PM2.5 time series.

5.2 EPA PM2.5 Plots

5.3 PM_{2.5} data from the Federal Land Manager Environmental Database

Data Source

<http://views.cira.colostate.edu/fed/DataWizard/Default.aspx>

Brief Description

Notes

<http://views.cira.colostate.edu/fed/User/Feedback.aspx>

File Formats

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Processed/Cleaned Data File Names

5.4 PM_{2.5} data from the Fire Cache Smoke Monitor Archive

Data Source

michaelbroughton@fs.fed.us

<https://wrcc.dri.edu/cgi-bin/smoke.pl>

Brief Description

Notes

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Data Filtering and Processing

Final Variable(s)

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**Quality Control
Script Names**

Original Data File Names

Processed/Cleaned Data File Names

Download instructions

<https://wrcc.dri.edu/cgi-bin/smoke.pl>

<https://732215511434.signin.aws.amazon.com/console>

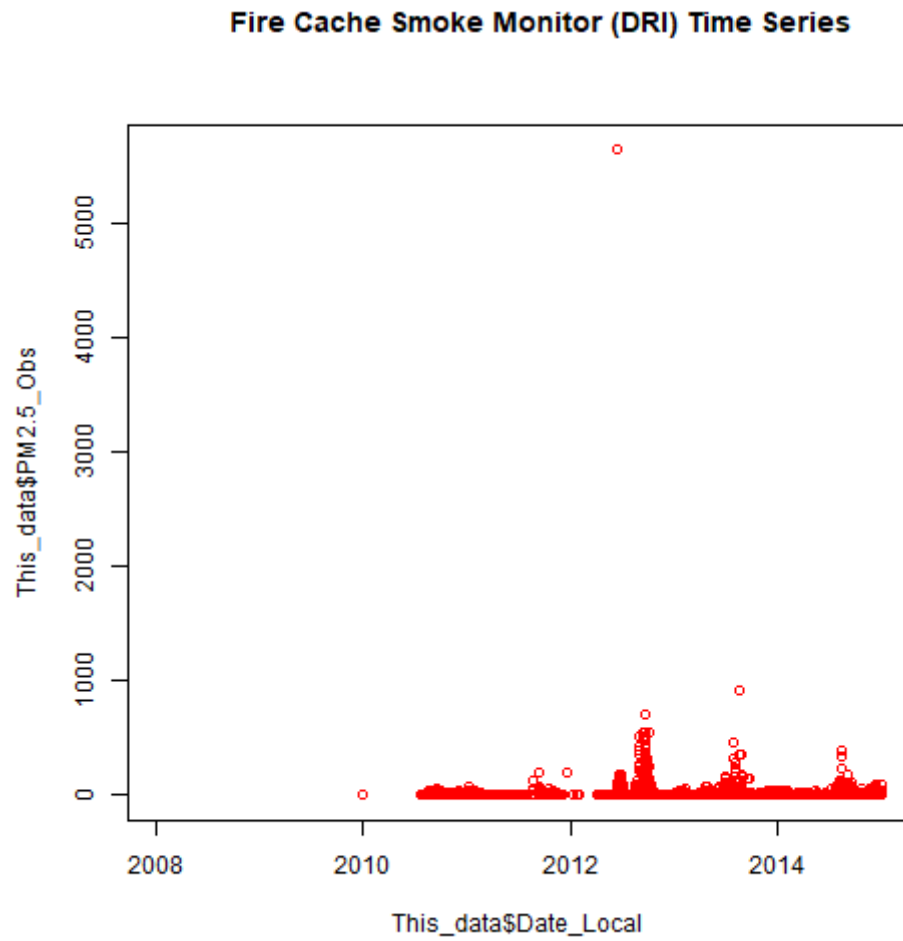


Figure 12: Fire Cache Smoke Monitor (DRI) time series.

5.5 Fire Cache Smoke Monitor (DRI) Plots

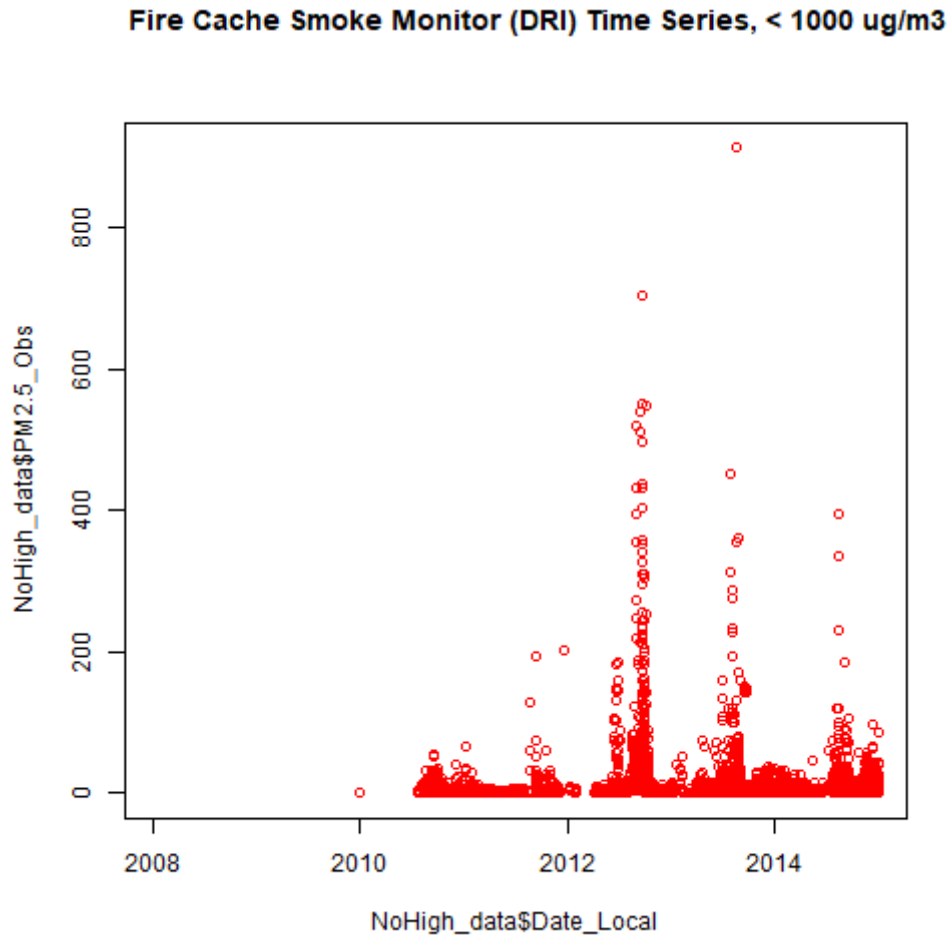


Figure 13: Fire Cache Smoke Monitor (DRI) time series without data above 1000 ug/m3 so that the majority of data can be seen.

5.6 California State Air Quality and Meteorological Information System (AQMIS)

Data Source

<https://www.arb.ca.gov/aqmis2/aqmis2.php>

Brief Description

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Script Names

Original Data File Names

Processed/Cleaned Data File Names

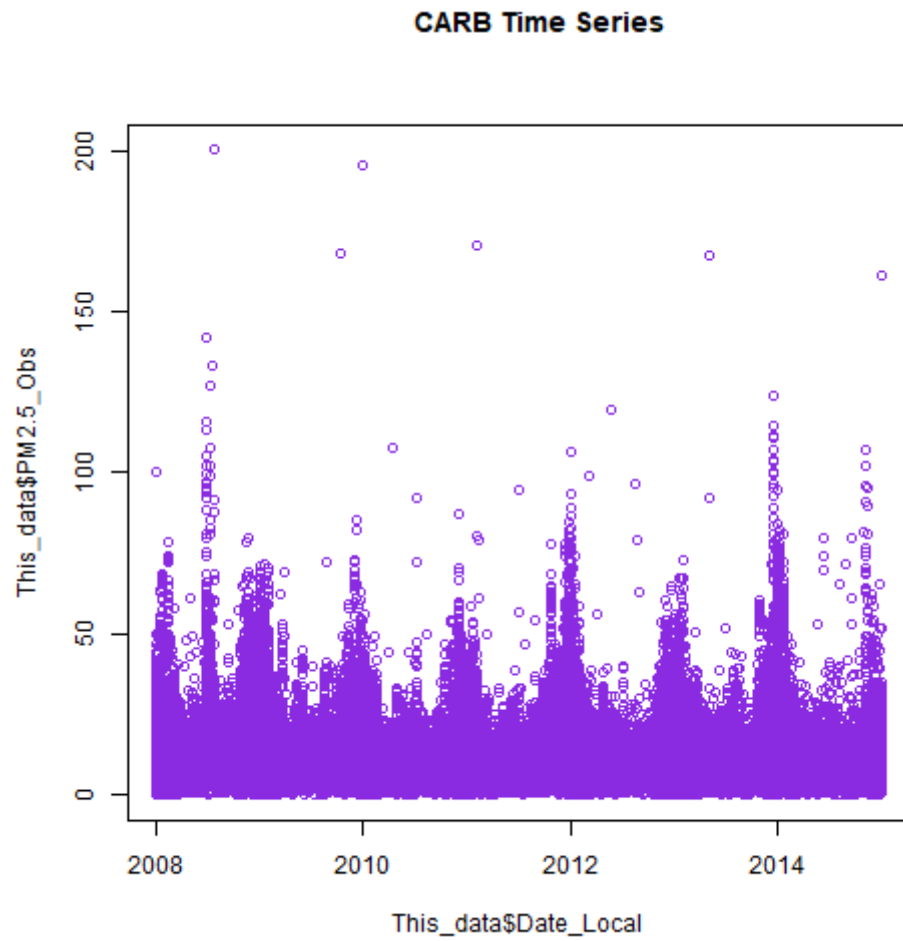


Figure 14: CARB time series.

5.7 CARB Plots

5.8 PM_{2.5} Monitor data from Uintah Basin

Data Source

Brief Description

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Final Variable(s)

Methods

Quality Control

Script Names

Original Data File Names

Processed/Cleaned Data File Names

5.9 PM_{2.5} data from PCAPS in the Salt Lake Valley

Data Source

geoff@chemeng.utah.edu

<https://www.sciencedirect.com/science/article/pii/S1352231011011204>

Brief Description

Notes

File Formats

Data Filtering and Processing

Final Variable(s)

Methods

Quality Control

Script Names

Original Data File Names

Processed/Cleaned Data File Names

5.10 Utah Department of Environmental Quality

Data Source

<http://www.airmonitoring.utah.gov/dataarchive/archpm25.htm>

Brief Description

Notes

<http://www.airmonitoring.utah.gov/network/Counties.htm>

<http://www.airmonitoring.utah.gov/dataarchive/2016DailyMaxPM25.pdf>

File Formats

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Final Variable(s)

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Script Names

Original Data File Names

Processed/Cleaned Data File Names

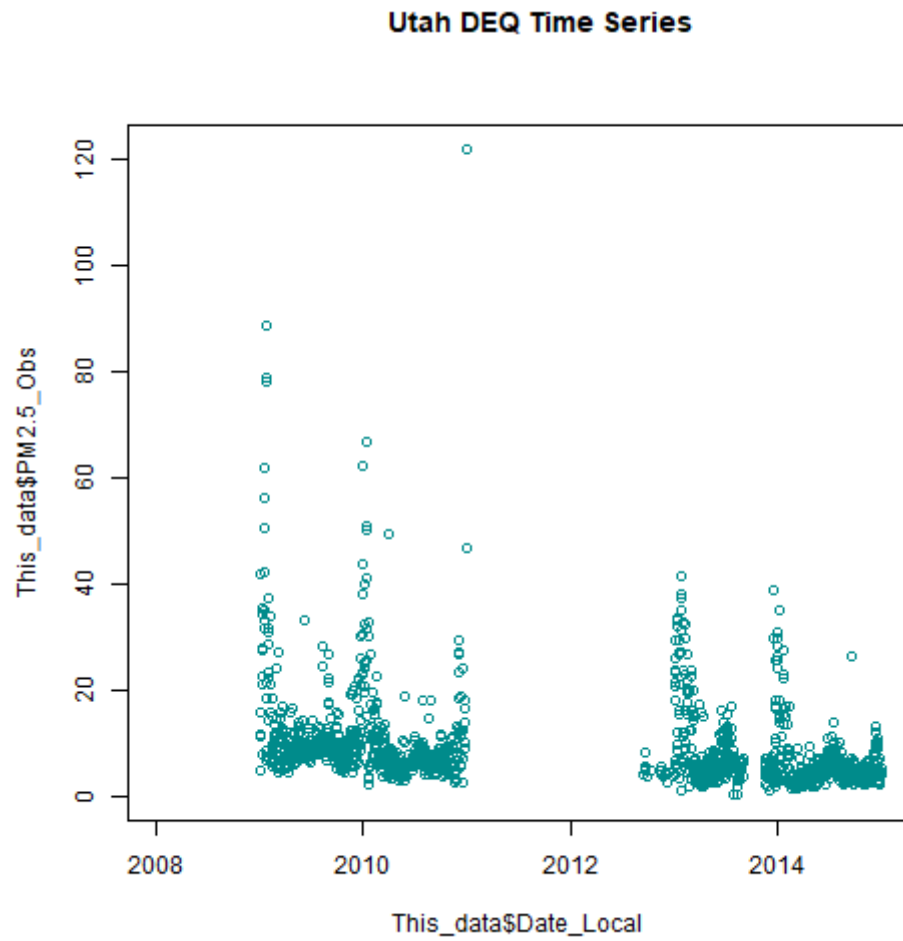


Figure 15: Utah DEQ time series.

5.11 Utah DEQ Plots

5.12 MODIS AOD

Data Source

Brief Description

Notes

File Format

Data Filtering and Processing

Final Variable(s)

Methods

**Quality Control
Script Names**

Data File Names

5.13 GASP-West AOD

Data Source

Brief Description

Notes

<https://www.ncdc.noaa.gov/data-access/satellite-data/satellite-data-access-datasets>
<https://www.ncdc.noaa.gov/data-access/satellite-data/satellite-data-access-datasets>
<https://www.ncdc.noaa.gov/has/has.dsselect>
<https://www.ncdc.noaa.gov/doclib/index.php?choice=dsi&searchstring=3635&submitted=1&submitted=Search>

File Format

Data Filtering and Processing

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Quality Control

Script Names

Data File Names

5.14 MERRA-2

Data Source

Brief Description

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Final Variable(s)

Methods

Quality Control

Script Names

Original Data File Names

Processed/Cleaned Data File Names

5.15 MAIAC

Data Source

Brief Description

Notes

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Final Variable(s)

Methods

Quality Control

Script Names

Data File Names

5.16 MODIS Thermal Anomalies/Fire Daily L3 Global 1km (MOD14 and MYD14)

Data Source

Brief Description

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Data File Names

5.17 Landsat-derived burned area essential climate variable (BAECV) fire activity data

Data Source

Brief Description

Notes

File Format

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Methods

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Script Names

Data File Names

5.18 MODIS/Terra and Aqua Burned Area Monthly L3 Global 500 m SIN Grid V006 (MCD64A1)

Data Source

Brief Description

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Final Variable(s)

Methods

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Script Names

Data File Names

5.19 Visible Infrared Imaging Radiometer Suite (VIIRS) (VNP14IMGTDL_NRT)

Data Source

Brief Description

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5.20 Classified land cover information from the Landsat-derived NLCD 2011

Data Source

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5.21 MODIS Snow Cover Daily L3 Global 500m Grid, Version 6 (MOD10A1 and MYD10A1)

Data Source

Brief Description

Notes

File Format

Data Filtering and Processing

Final Variable(s)

Methods

Quality Control

Script Names

Data File Names

5.22 Elevation

Data Source

Brief Description

Notes

File Format

Data Filtering and Processing

Final Variable(s)

Methods

Quality Control

Script Names

Data File Names

5.23 Meteorological Data

Data Source

<https://rda.ucar.edu>

Brief Description

Notes

<http://strawberryperl.com/https://www.perl.org/https://www.gnu.org/software/wget/>

File Format

http://www.cpc.ncep.noaa.gov/products/wesley/reading_grib.html

<https://labcit.ligo.caltech.edu/~ethrane/Resources/UNIX/>

<ftp://ftp.cpc.ncep.noaa.gov/wd51we/wgrib2/wgrib2.tgz>http://www.cpc.ncep.noaa.gov/products/wesley/wgrib2/compile_questions.html

https://dev.openttdcoop.org/projects/home/wiki/Setting_up_a_Windows_compile_environment_using_WSL

<http://opengrads.org/>

<https://cran.r-project.org/web/packages/rNOMADS/rNOMADS.pdf><http://www.cpc.ncep.noaa.gov/products/wesley/wgrib2/><http://www.cpc.ncep.noaa.gov/products/wesley/wgrib.html>

Data Filtering and Processing

Final Variable(s)

Methods

Quality Control

Script Names

Data File Names

5.24 Dust Storms

Data Source

Brief Description

Notes

File Format

Data Filtering and Processing

Final Variable(s)

Methods

Quality Control

Script Names

Data File Names

6 Data Sources for CAMx Modeling of Source-Attributed Air Quality Modeling

<http://www.weather.gov/spot/monitor/>

7 CAMx Modeling

8 Compiling Data

8.1 Processing PM2.5 data

8.1.1 Notes about very high data points

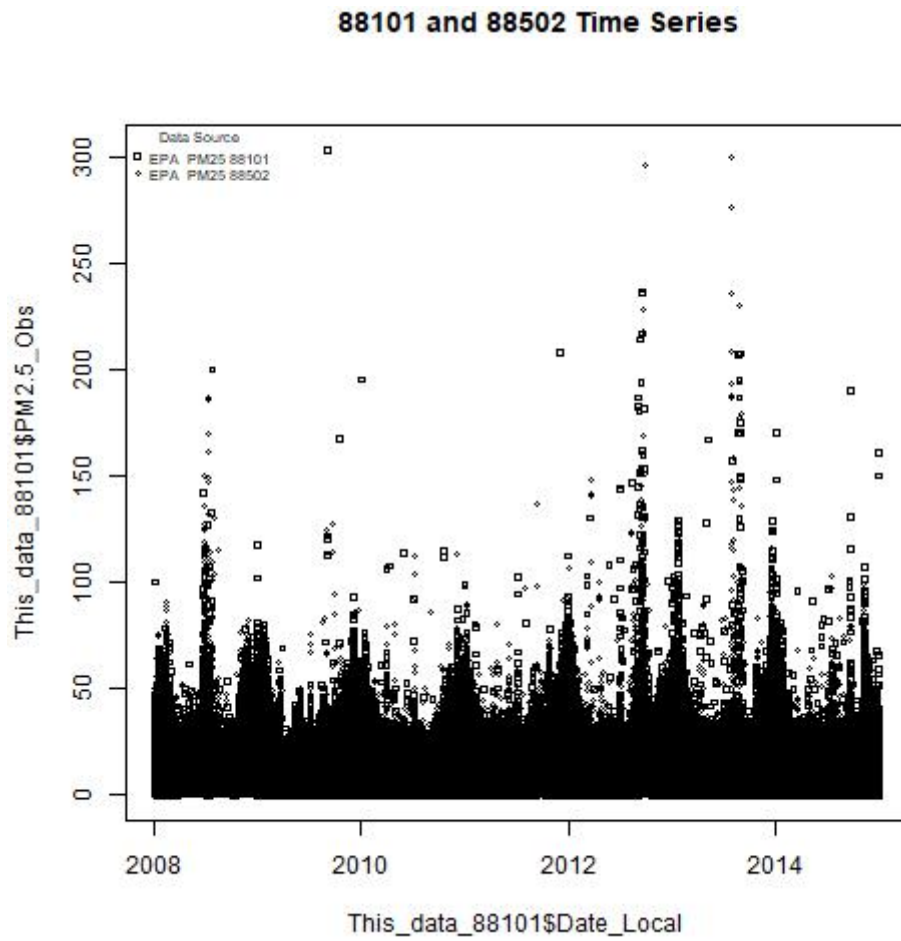


Figure 16: Time series of 88101 and 88502 PM2.5 data.

8.2 Compare 88101 to 88502 PM2.5

9 Machine Learning Methods

<http://www.cvent.com/events/nasa-aist-machine-learning-workshop/event-summary-1f5144a5d1734ca394.aspx>
<https://global.gotomeeting.com/public/recording-player.html?id=owZDmUustOjaW9sJGQ5u9cUG2pBa4D>

10 Machine Learning Results

References

<https://modis.gsfc.nasa.gov/data/dataproduct/mod14.php>

<http://dx.doi.org/10.5067/MODIS/MYD10A1.006>

<https://www.mrlc.gov/nlcd2011.php>

<http://www.ssd.noaa.gov/PS/FIRE/GASP/gasp.html>

https://lpdaac.usgs.gov/dataset_discovery/modis/modis_products_table/mcd64a1_v006

<http://wfeis.mtri.org/>

https://ladsweb.modaps.eosdis.nasa.gov/api/v1/productPage/product=MOD04_L2

https://ladsweb.modaps.eosdis.nasa.gov/api/v1/productPage/product=MYD04_L2

<http://rda.ucar.edu/datasets/ds608.0/>

<https://www.ncdc.noaa.gov/data-access/satellite-data/satellite-data-access-datasets>

<http://www.ospo.noaa.gov/Products/land/hms.html>

<https://www.epa.gov/outdoor-air-quality-data/download-daily-data>

<https://www3.epa.gov/ttnamti1/visdata.html>

https://aqs.epa.gov/aqsweb/documents/codetables/methods_all.html

<https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>

<https://www.ncdc.noaa.gov/stormevents/pd01016005curr.pdf>

<https://www.ncdc.noaa.gov/stormevents/>

<https://www.ncdc.noaa.gov/stormevents/details.jsp>