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1 Ideas, To Do, Resources, etc

http://science.sciencemag.org/content/313/5789/940http://www.pnas.org/content/108/32/13165 http://rstb.royalsocietypublishing.org/content/371/1696/20150178http://fam.nwcg.gov/fam-web/weatherfirecd/fire_files.htmhttp://fam.nwcg.gov/fam-web/kcfast/mnmenu.htmhttp://www.nifc.gov

http://www.fasmee.net

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https://www.5280.com/2018/09/can-colorado-burn-its-way-out-of-a-wildfire-crisis/

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https://cires.colorado.edu/news/wildfire-temperatures-key-better-understanding-air-qualityhttps://www.atmos-chem-phys.net/18/9263/2018/

http://mtbs.gov/data/individualfiredata.html/

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http://wrapfets.org/index.cfm

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http://www.ptep-online.com/ctan/symbols-a4.pdf

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

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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

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2 PM2.5 Surface Paper Notes

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2.1 Papers published in Atmospheric Environment - use as style example

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

http://80.24.165.149/webproduccion/PDFs/15CAP03.PDF

3.1 Notes on Papers

4 Fire attribution paper

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4.1 text written for the COPD paper - variation of this may be useful

μ^{-3}

5 Data Sources for Machine Learning

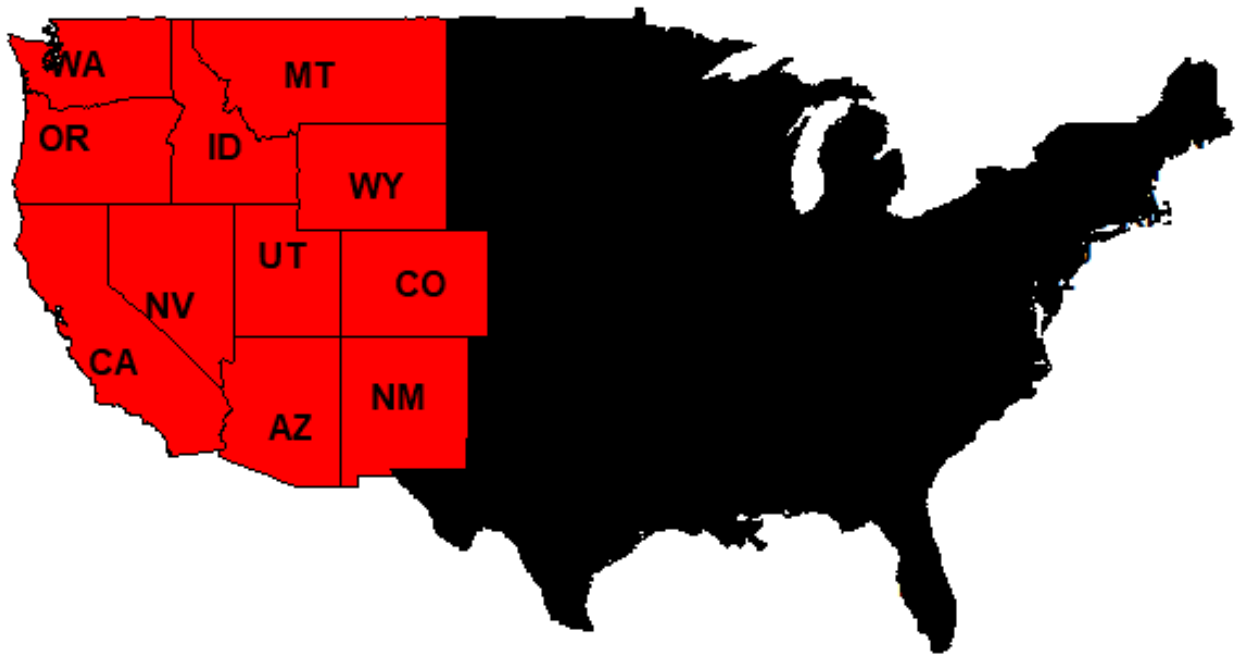

Figure 1: Map of 11-state study area.

All PM2.5 Monitor Locations

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

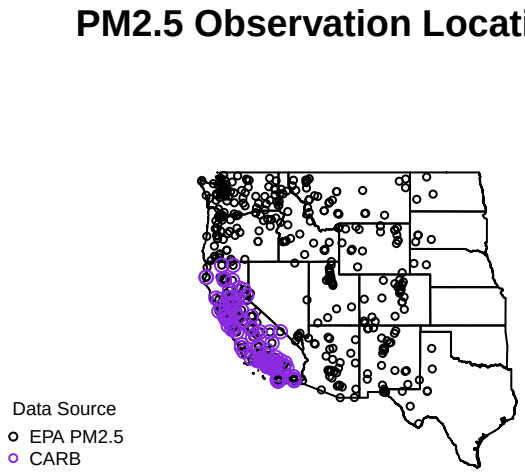

Figure 3: Map of locations of PM2.5 observations during 2008.

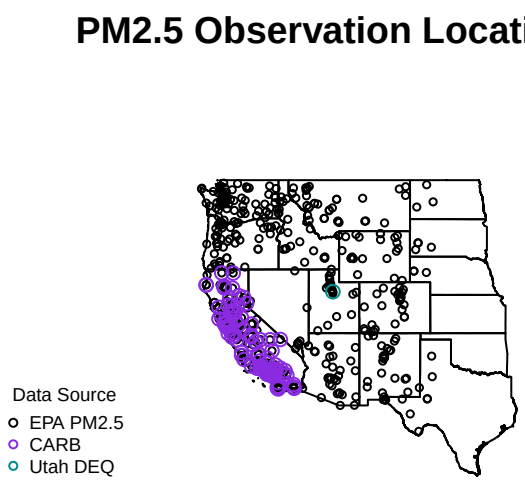

Figure 4: Map of locations of PM2.5 observations during 2009.

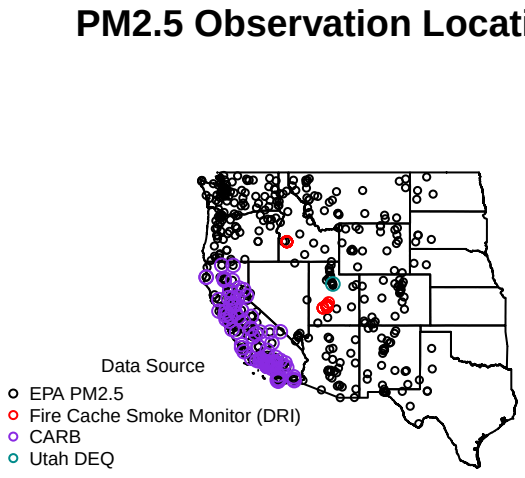

Figure 5: Map of locations of PM2.5 observations during 2010.

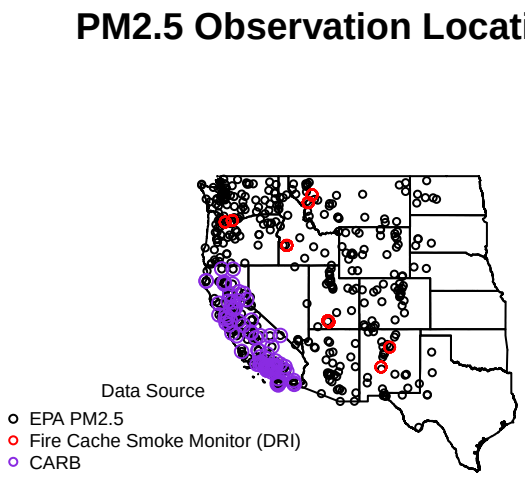

Figure 6: Map of locations of PM2.5 observations during 2011.

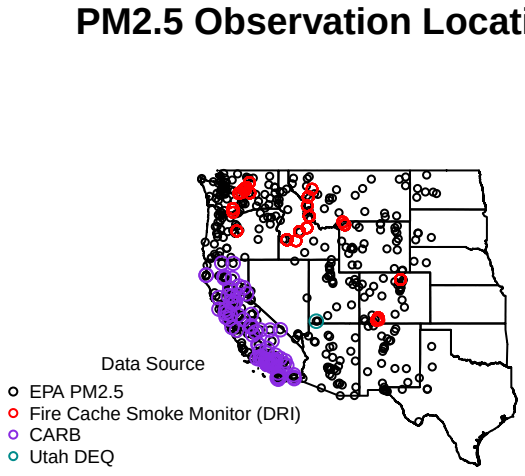

Figure 7: Map of locations of PM2.5 observations during 2012.

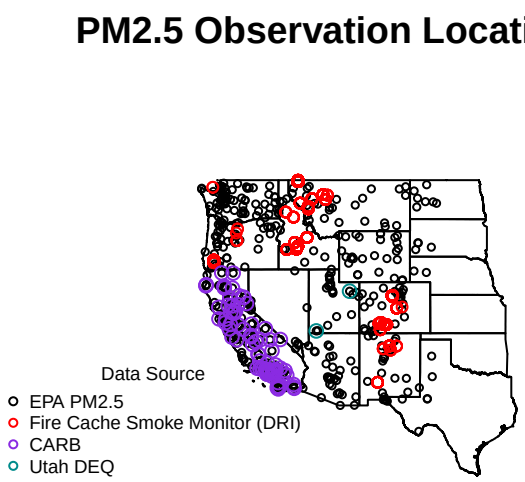

Figure 8: Map of locations of PM2.5 observations during 2013.

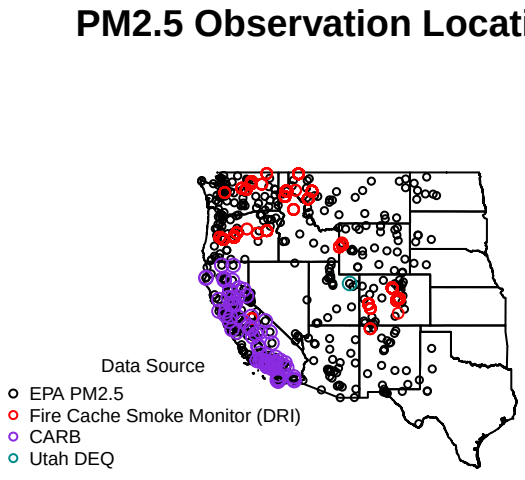

Figure 9: Map of locations of PM2.5 observations during 2014.

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

Brief Description

Notes
File Format
Data Filtering and Processing
Final Variable(s)
Methods

Quality Control
Script Names

Data File Names

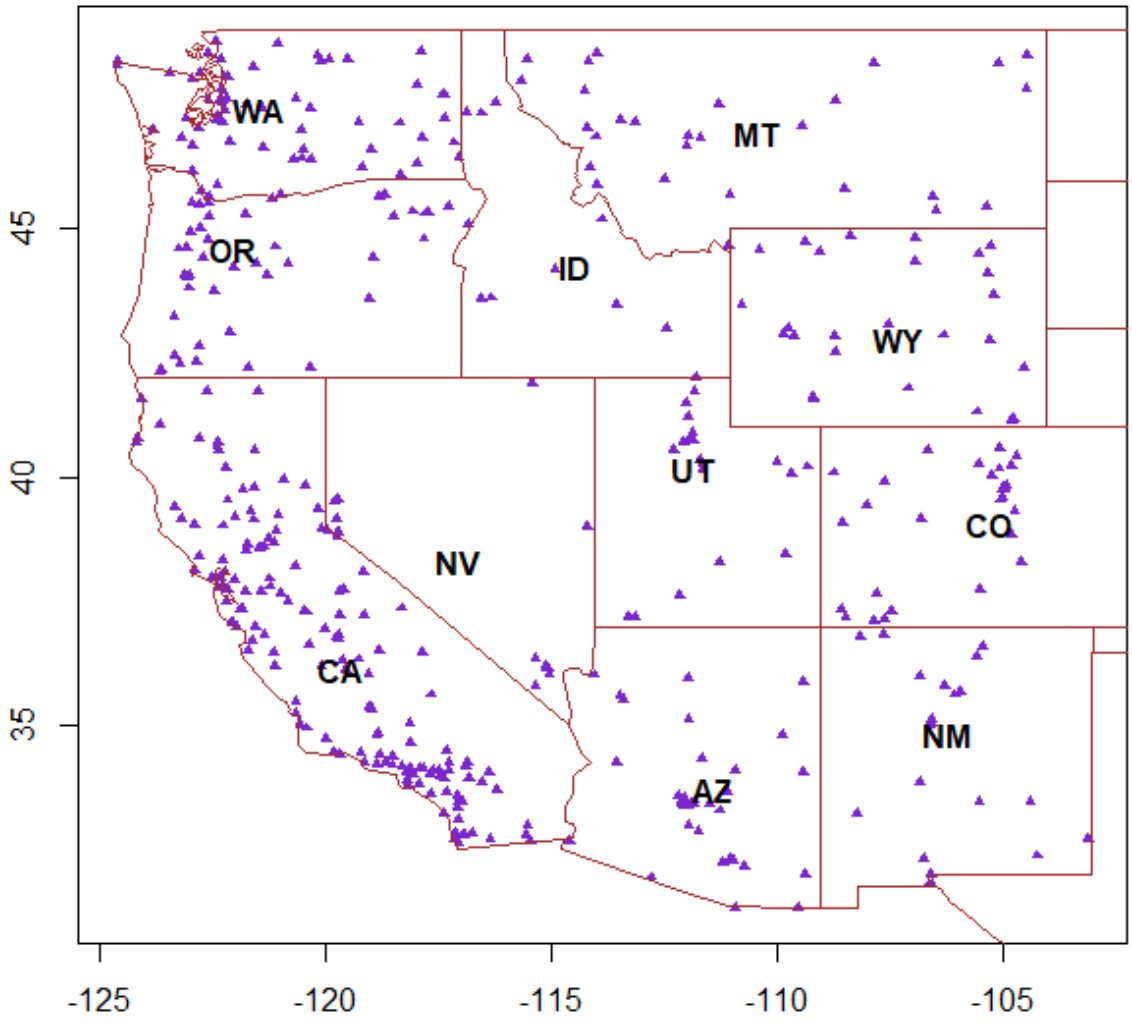

Figure 10: Map of 88101 and 88502 $PM_{2.5}$ Monitors.

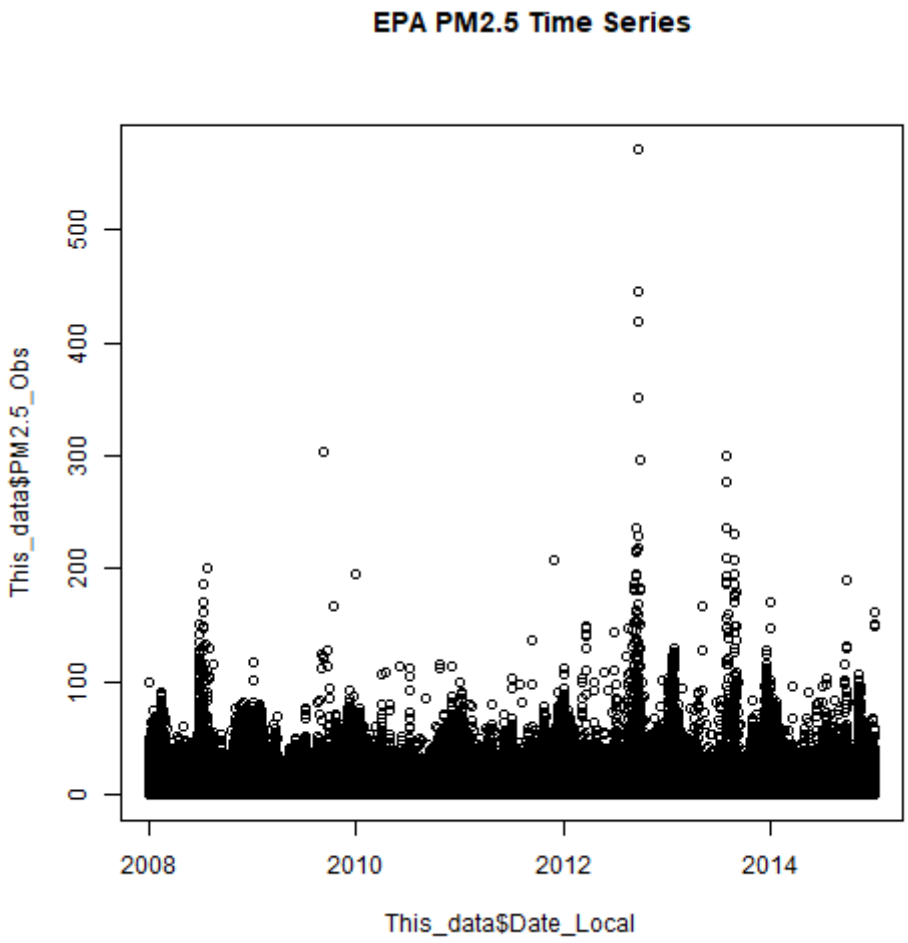

Figure 11: EPA PM2.5 time series.

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

File Formats

Original 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

File Formats

Data Filtering and Processing

Final Variable(s)

Methods

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

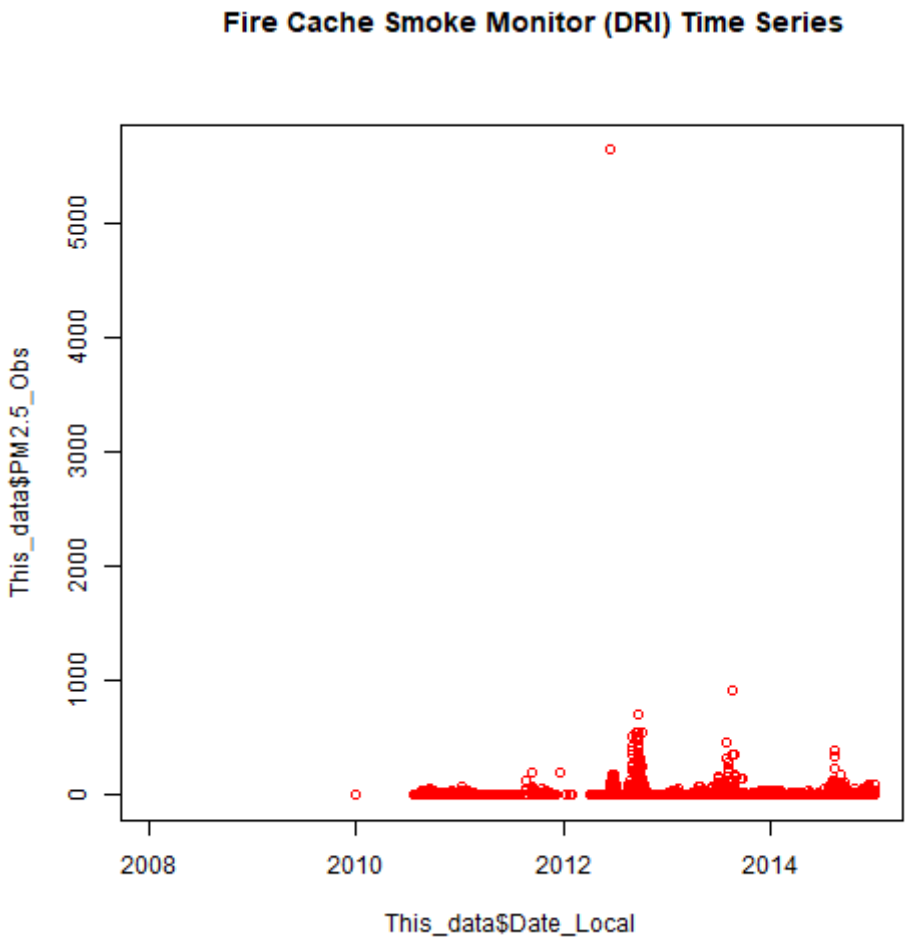

Figure 12: Fire Cache Smoke Monitor (DRI) time series.

5.5 Fire Cache Smoke Monitor (DRI) Plots

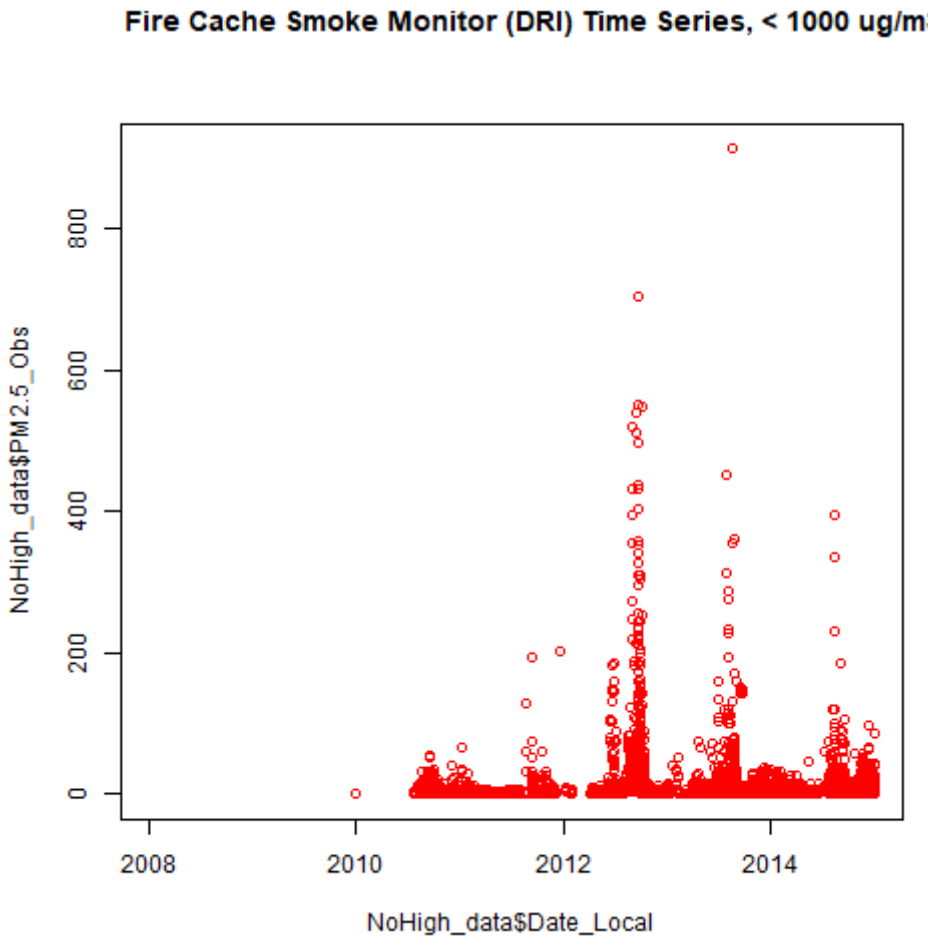

Figure 13: Fire Cache Smoke Monitor (DRI) time series without data above 1000 ug/m3 so that the majority of data can be seen.

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

Data Source

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

Brief Description

Notes

File Formats

Data Filtering and Processing
Final Variable(s)
Methods

Quality Control
Script Names

Original Data File Names

Processed/Cleaned Data File Names

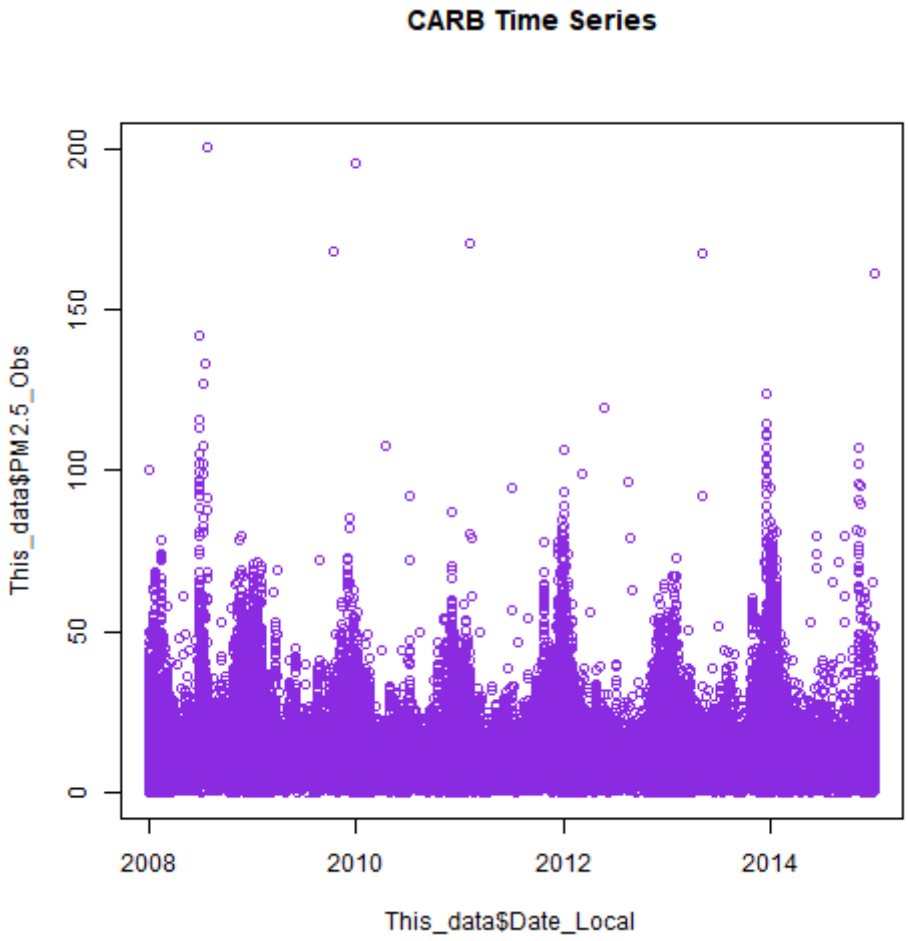

Figure 14: CARB time series.

5.7 CARB Plots

5.8 $PM_{2.5}$ Monitor data from Uintah Basin

Data Source

Brief Description

Notes

File Formats

Data Filtering and Processing

Final Variable(s)
Methods

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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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Script Names

Original Data File Names

Processed/Cleaned Data File Names

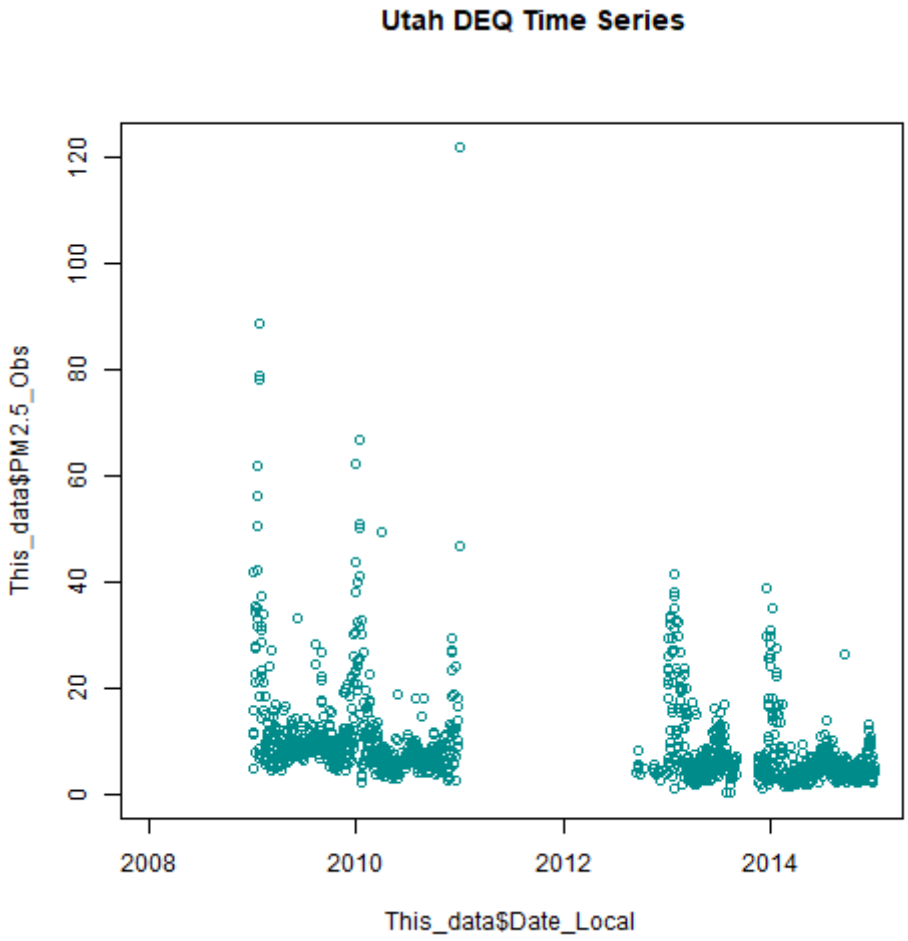

Figure 15: Utah DEQ time series.

5.11 Utah DEQ Plots

5.12 MODIS AOD

Data Source

Brief Description

Notes

File Format

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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
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Final Variable(s)
Methods

Quality Control
Script Names

Data File Names

5.14 MERRA-2

Data Source

Brief Description
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File Formats
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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
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File Format
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Final Variable(s)
Methods

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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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File Format

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Final Variable(s)
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Script Names

Data File Names

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

Data Source

Brief Description

Notes

File Format

Data Filtering and Processing

Final Variable(s)

Methods

Quality Control

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

Notes

File Format

Data Filtering and Processing

Final Variable(s)

Methods

Quality Control

Script Names

Data File Names

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

Data Source

Brief Description

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Quality Control
Script Names

Data File Names

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

Data Source

Brief Description

Notes
File Format

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Final Variable(s)
Methods

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Script Names

Data File Names

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://www.ncdc.noaa.gov/data-access/model-data/model-datasets/north-american-mesoscale-forecast-
https://nomads.ncdc.noaa.gov/data/namanl/

Brief Description

Notes

File Format

https://cran.r-project.org/web/packages/rNOMADS/rNOMADS.pdf

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

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

Data Filtering and Processing

http://www.cpc.ncep.noaa.gov/products/wesley/wgrib.htmlhttp://www.cpc.ncep.noaa.gov/products/wesley/wgrib2/

https://cran.r-project.org/web/packages/rNOMADS/rNOMADS.pdf

http://www.cpc.ncep.noaa.gov/products/wesley/grb1to2.html

http://www.cpc.ncep.noaa.gov/products/wesley/grb1to2.html

Final Variable(s)

Quality Control

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

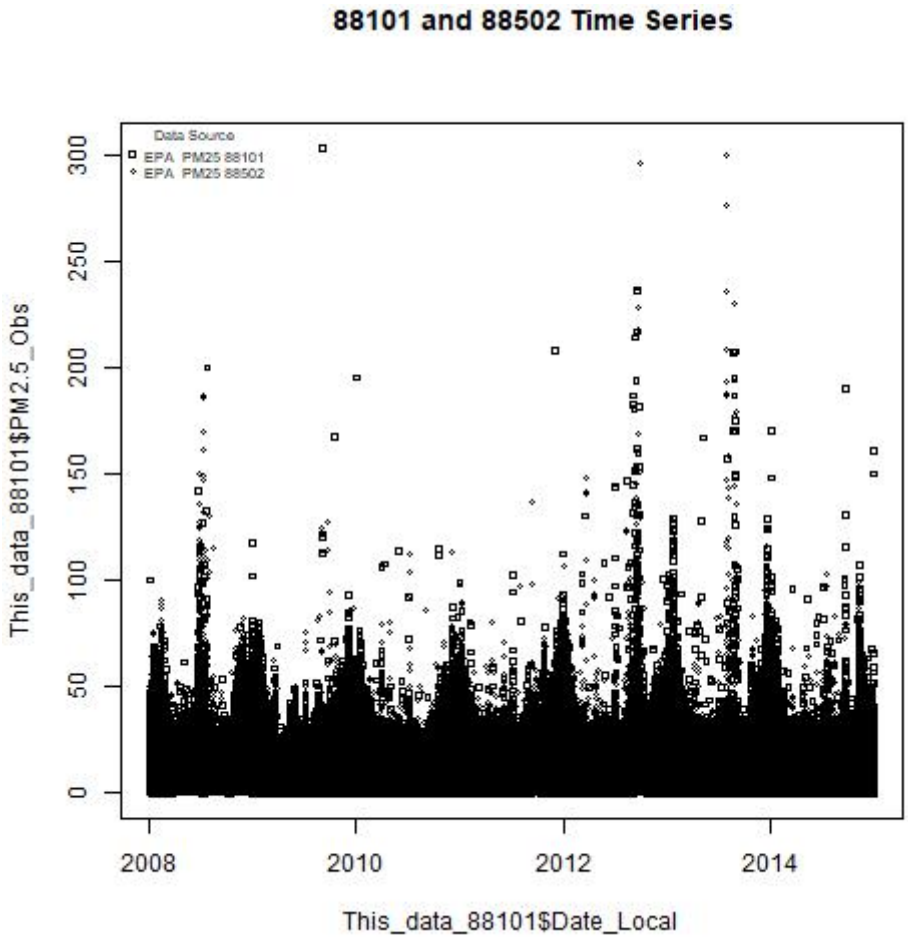

Figure 16: Time series of 88101 and 88502 PM2.5 data.

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
aspxhttps://global.gotomeeting.com/public/recording-player.html?id=owZDmUustOjaW9sJGQ5u9cUG2pBa4D

10 Machine Learning Results

References

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

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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

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