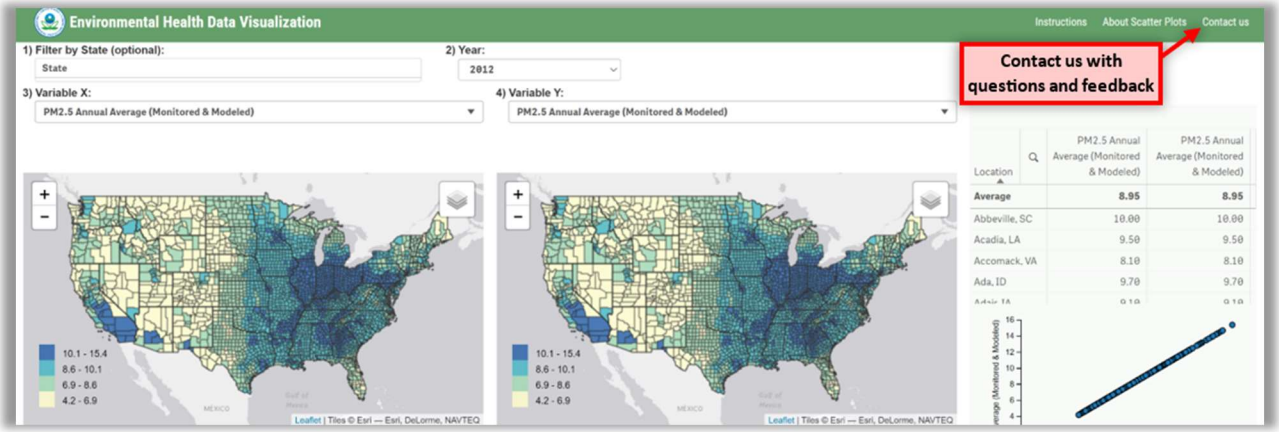
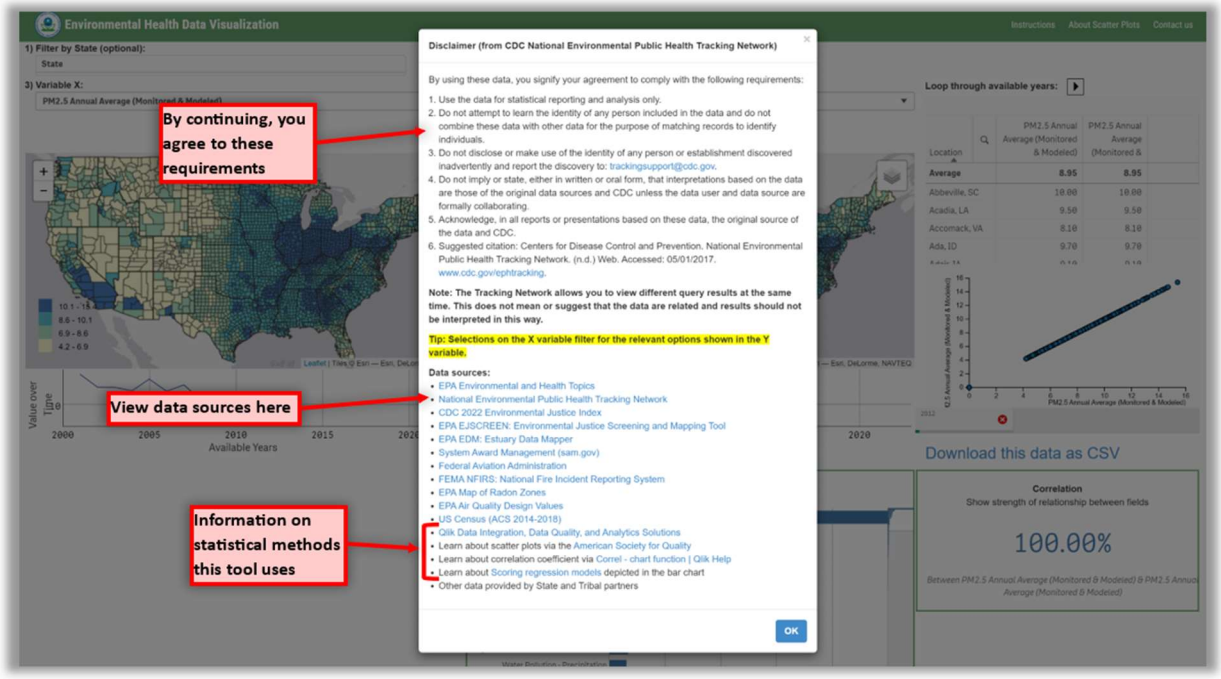
REHD-VI Tutorial

This guide will walk through some of the features you'll see in REHD-VI and the steps you can take to analyze data with the tool. If you have any questions we didn't answer here or suggestions for improvements, feel free to reach out with the "Contact Us" button at the top of the page or by emailing REHD@epa.gov.

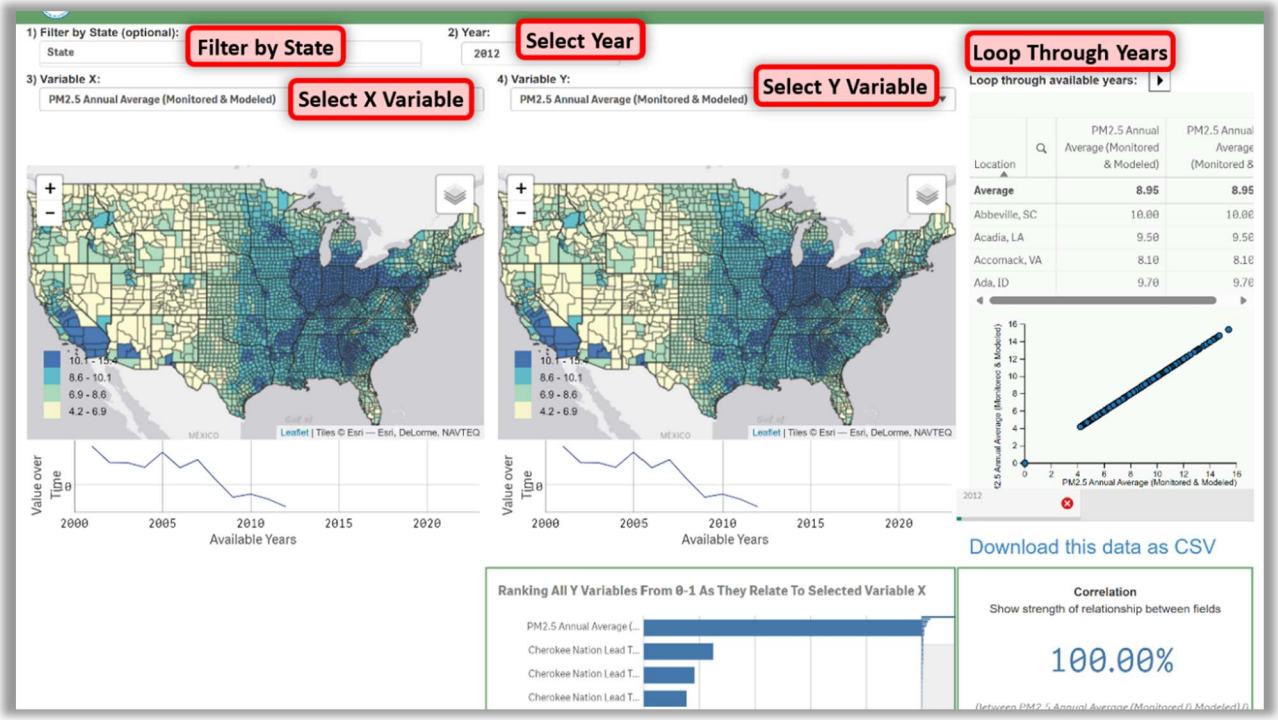


OPENING REHD-VI



Upon opening the tool, you'll see a disclaimer from the CDC National Environmental Public Health Tracking Network, as well as a list of links to data sources and explanations of the statistics that REHD-VI calculates. Be sure to read the message fully, then click "OK" to continue.

SELECTING DATA



Filter by State: Optionally, you can search for and select your state(s) of interest in the dropdown. US territories can be selected as well but may not be represented in all datasets. Click the checkmark icon to confirm your choices.

Select Year: Use the dropdown to select the year of interest. Note that some datasets are not available for all years.

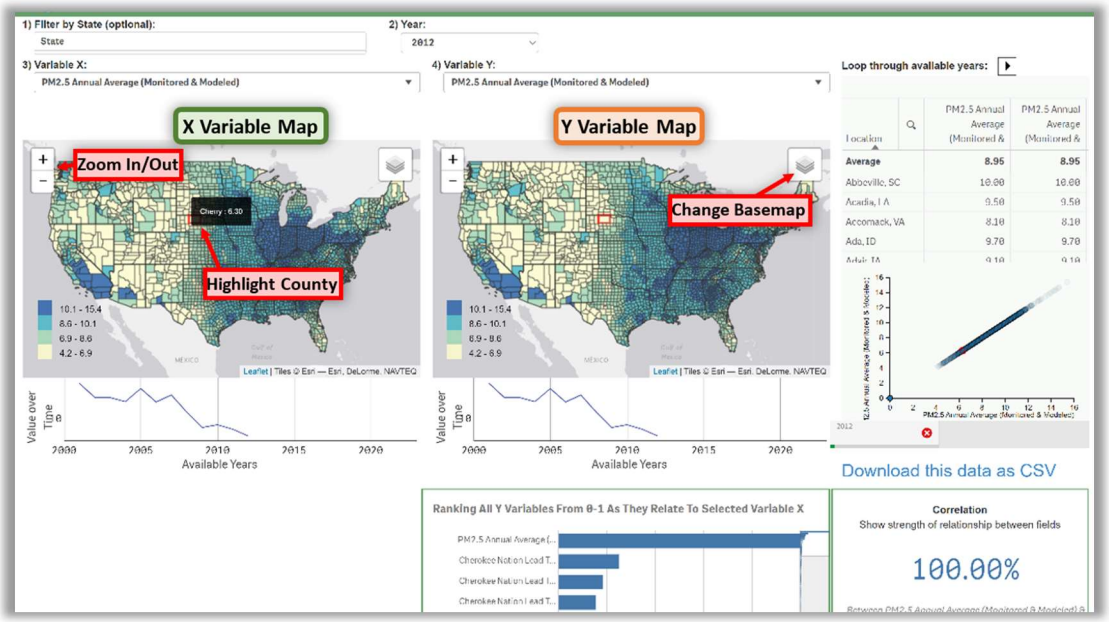
Select X Variable: Use the "Variable X" dropdown to select an independent variable, which the **map on the left side of the screen** will display.

Select Y Variable: Use the "Variable Y" dropdown to select a response variable, which the **map on the right side** will display. Please note that the Y variable options are filtered to only show datasets related to the X variable chosen.

Brief descriptions of the datasets selected should populate below the Variable X and Variable Y dropdowns.

Loop Through Available Years: For datasets available for multiple years, you have the option to display each year in a cycle.

VIEWING DATA ON MAPS



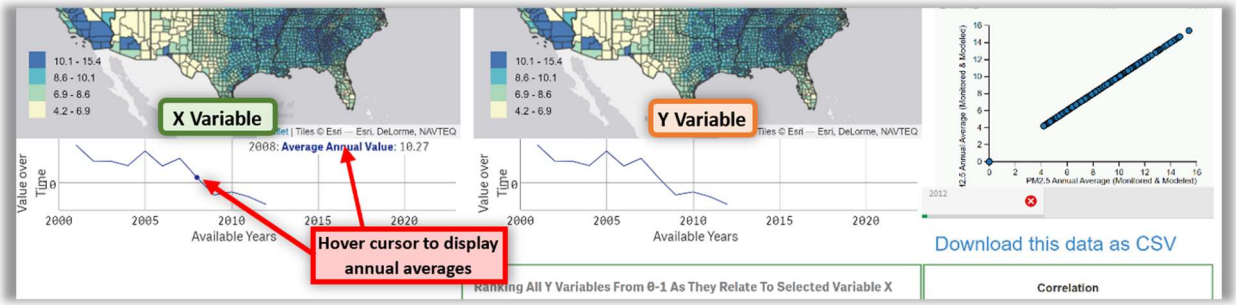
The data for the X and Y variables should populate into the maps at the county level on the left and right sides, respectively. Counties will appear white if they have no data from the year selected.

Zoom In/Out: The maps should automatically zoom to the area of interest once the variables and state are selected, or you can zoom manually clicking the +/- icon or scrolling with your mouse.

Change Basemap: Choose between 3 ESRI styles for the map underneath the data.

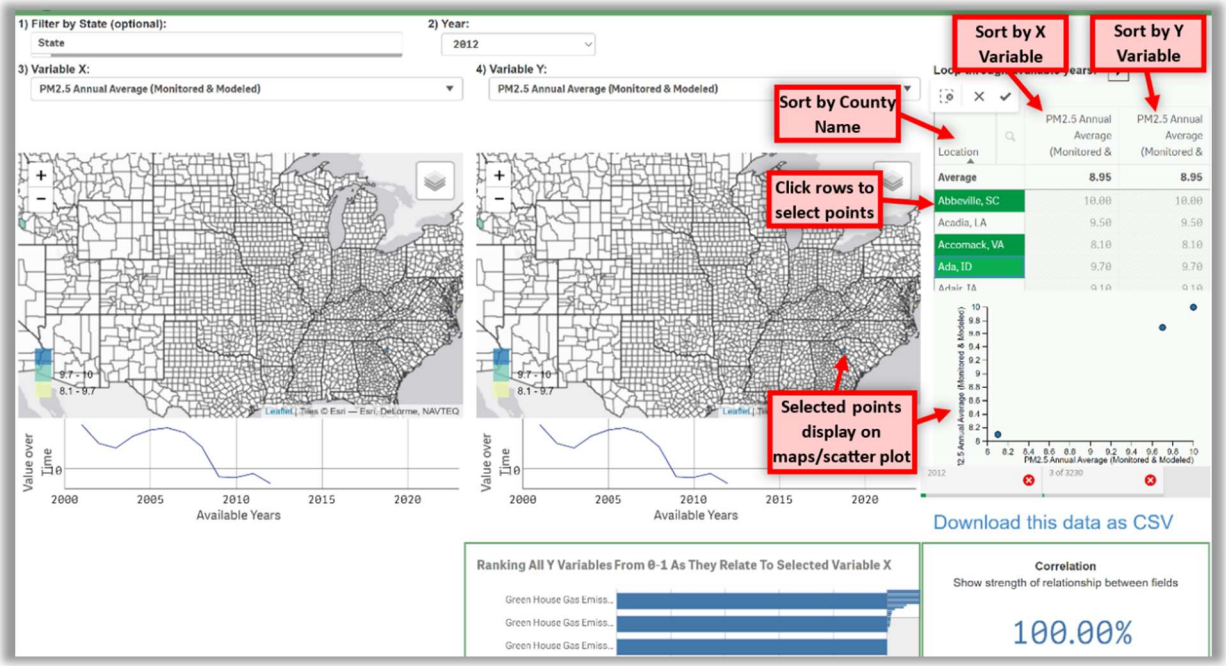
Highlight County: Hovering over a county with your cursor will outline it in red on both maps, show its value for the selected variable, and highlight its corresponding data point on the scatter plot on the right side of the screen.

VIEWING THE "VALUE OVER TIME" GRAPH



The graphs below the maps show the years for which the X and Y datasets have available data. Hovering your cursor over these graphs shows the average value between all counties by year.

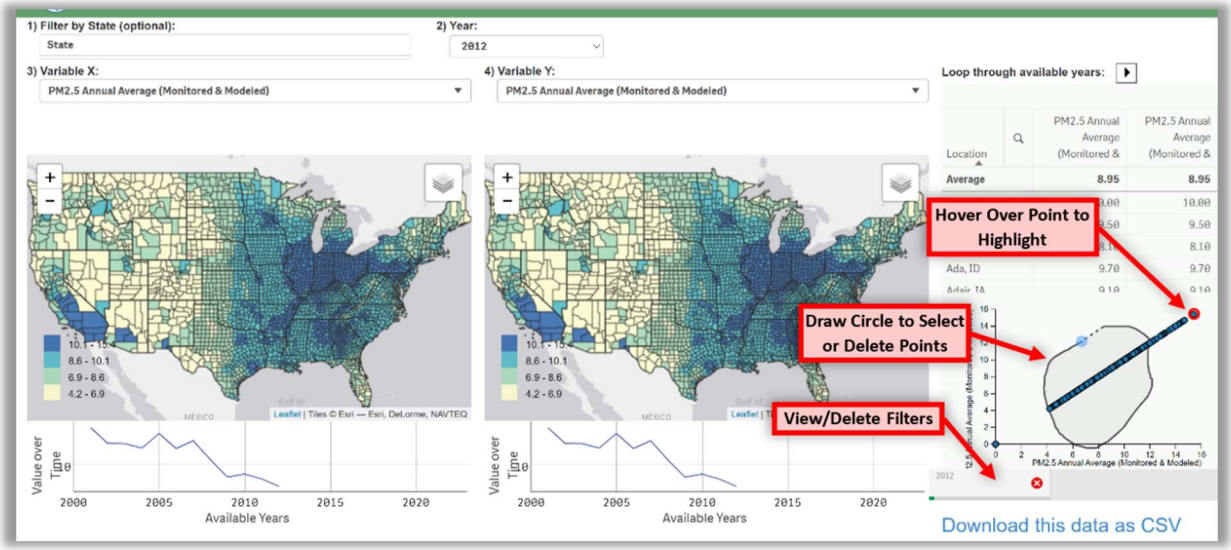
USING THE DATA TABLE



Select Individual Points: Clicking on individual rows within the table allows you to narrow your search to individual data points. The graphs will appear gray when 1 or 2 points are selected, but will function normally if 3 or more are selected. Click on a selected row again to deselect it.

Sort by Column: Click the column headings once to sort by the county name, X variable, or Y variable. Click once to sort from the highest to lowest numerical value or from A-Z; click again to sort in the reverse order.

USING THE SCATTER PLOT

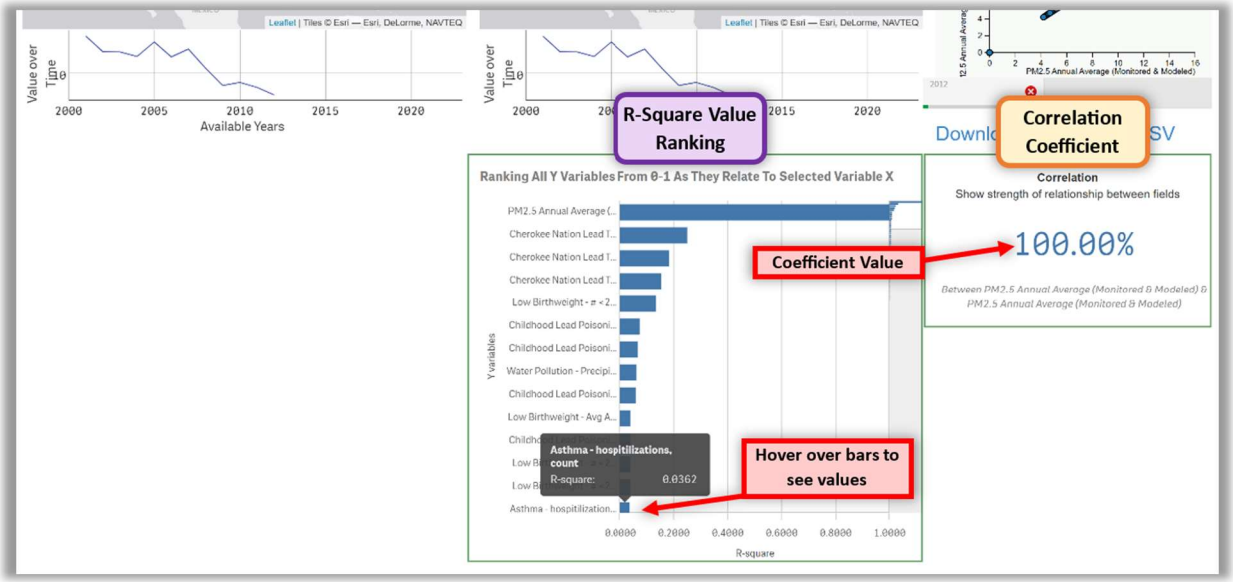


Highlight a Point: Hovering your cursor over an individual point will highlight it, show the county name and X and Y values, and outline the county in red on the maps. Hovering over a county on one of the maps will do this as well.

Circle Points to Select or Delete: You can draw a circle around a point or group of points in the scatter plot. <u>Drawing a closed circle will select the points inside of it, and drawing an open shape will delete these points.</u>

View/Remove Filters: The scatter plot shows all filters applied to the data, and you can remove these using the red "X" icons.

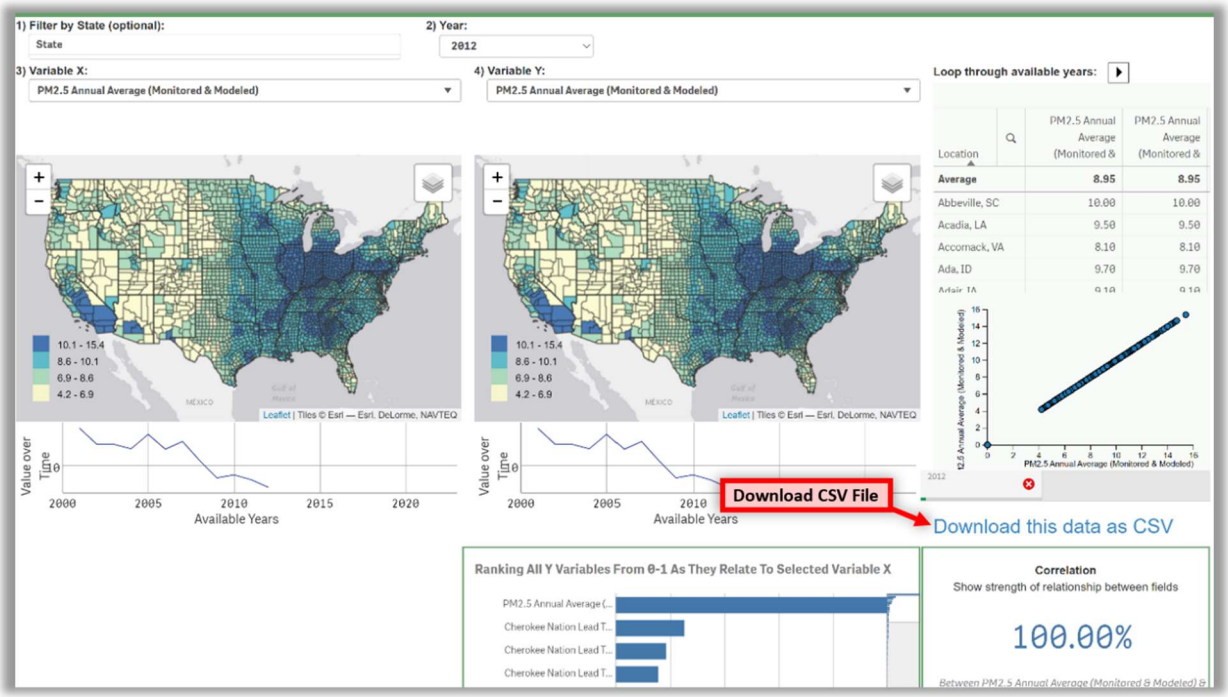
CORRELATION BETWEEN VARIABLES



R-Squared Value Ranking: The bar graph ranks the variables with which the X variable has the highest R-squared values. Try hovering your cursor above the bars to see the exact values.

Correlation Coefficient: The correlation between the X and Y variables is displayed as a percentage. Values close to 100% indicate a strong positive relationship, values close to 0% indicate no relationship, and values close to -100% indicate a strong negative relationship. Remember that correlation does not imply causation, and make sure to thoroughly evaluate the nuances of where data is and is not available before concluding that a relationship exists between variables.

EXPORTING DATA

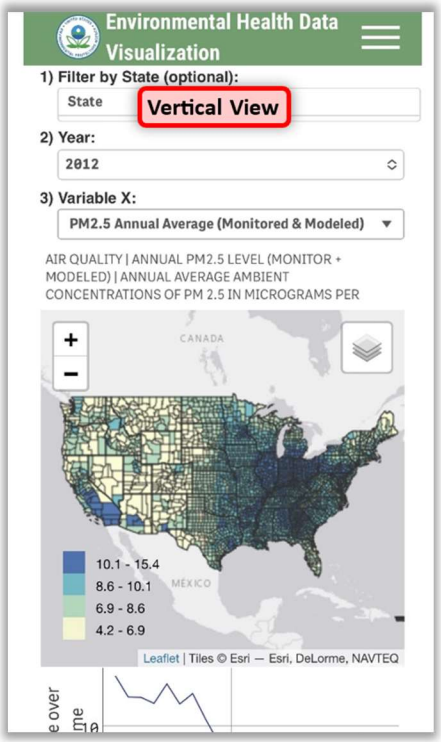


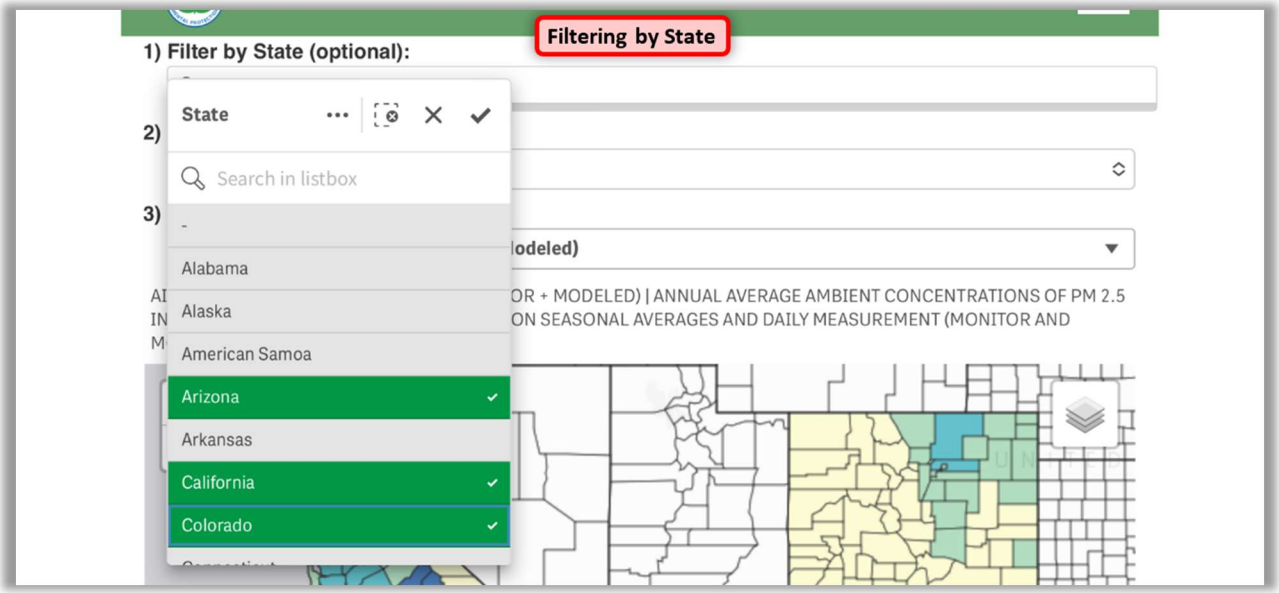
Download CSV: Once you've selected the data you're interested in, you can export it as a .CSV file.

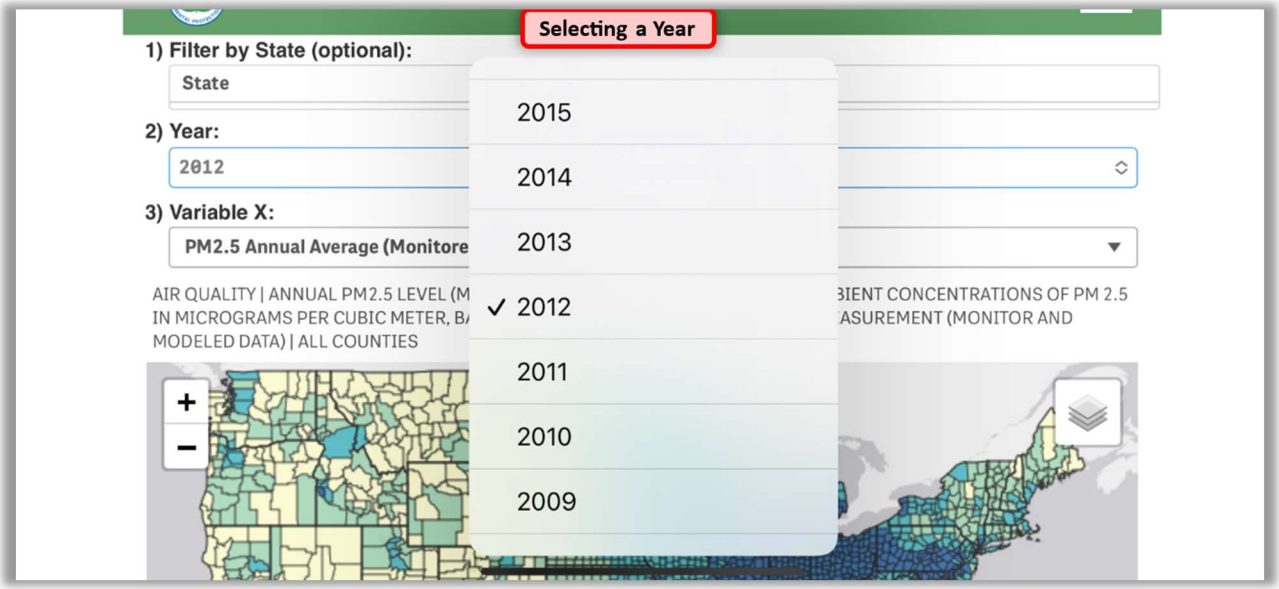
Now that you've seen REHD-VI's features, try comparing and downloading datasets that you might use in your work! And remember to email REHD@epa.gov or click the "Contact Us" button if you have any questions or feedback.

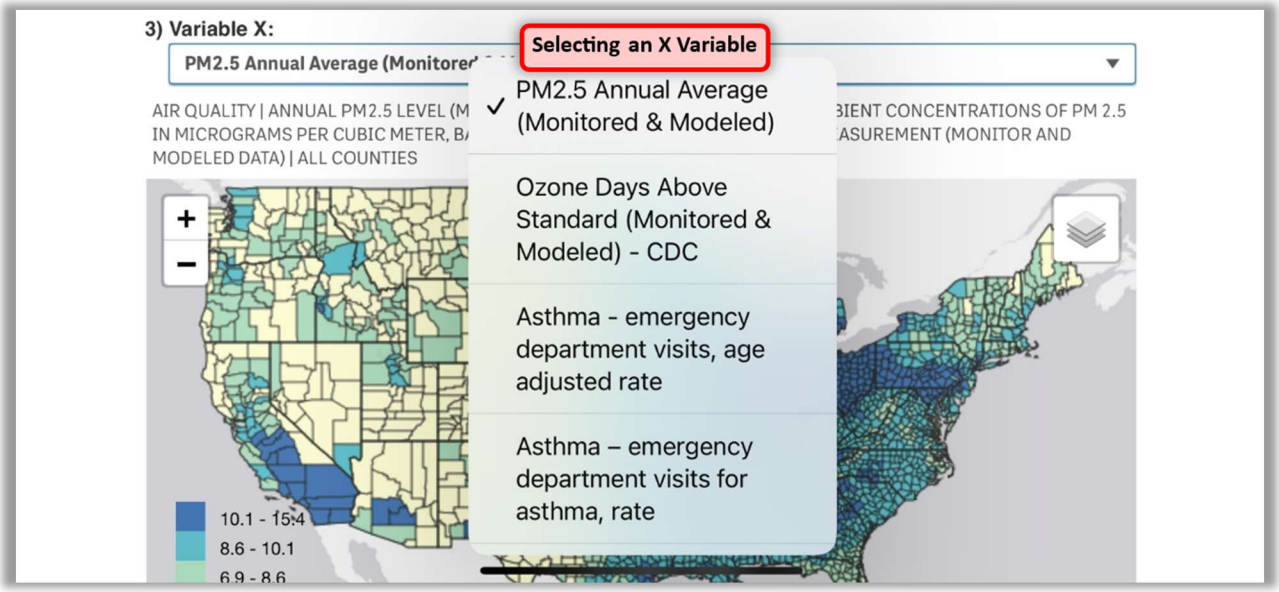
ADDITIONAL SCREENSHOTS FOR SMARTPHONES AND MOBILE DEVICES

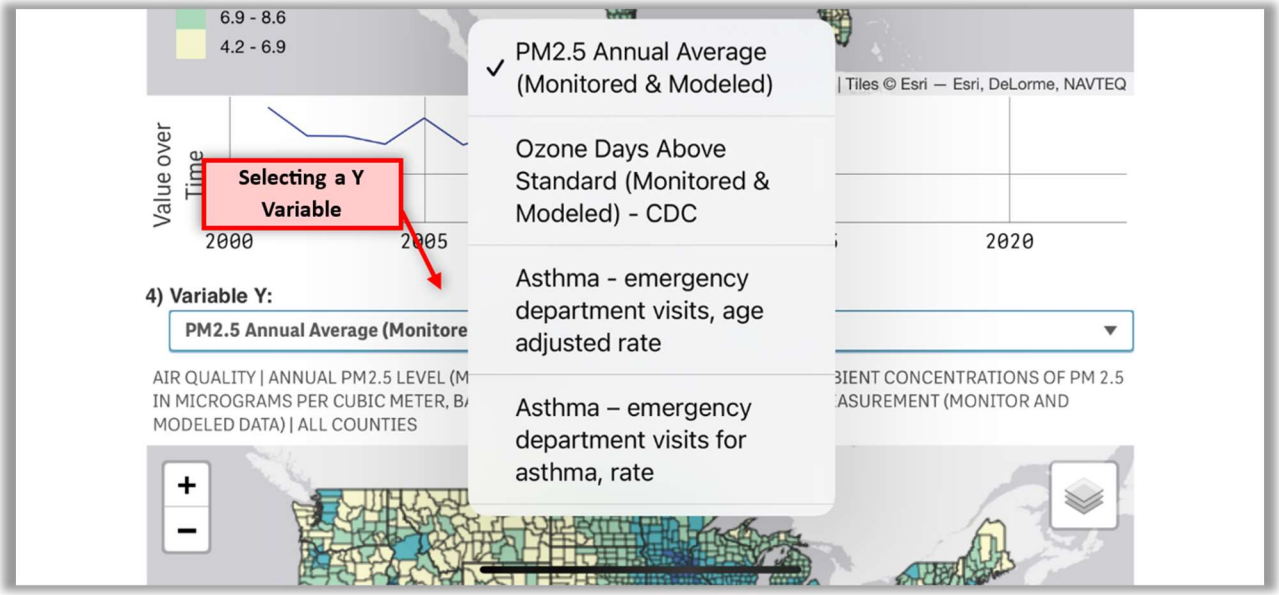
The images below demonstrate how REHD-VI's features appear on mobile devices. While the tool can be used in a vertical orientation, we recommend turning your device horizontally.

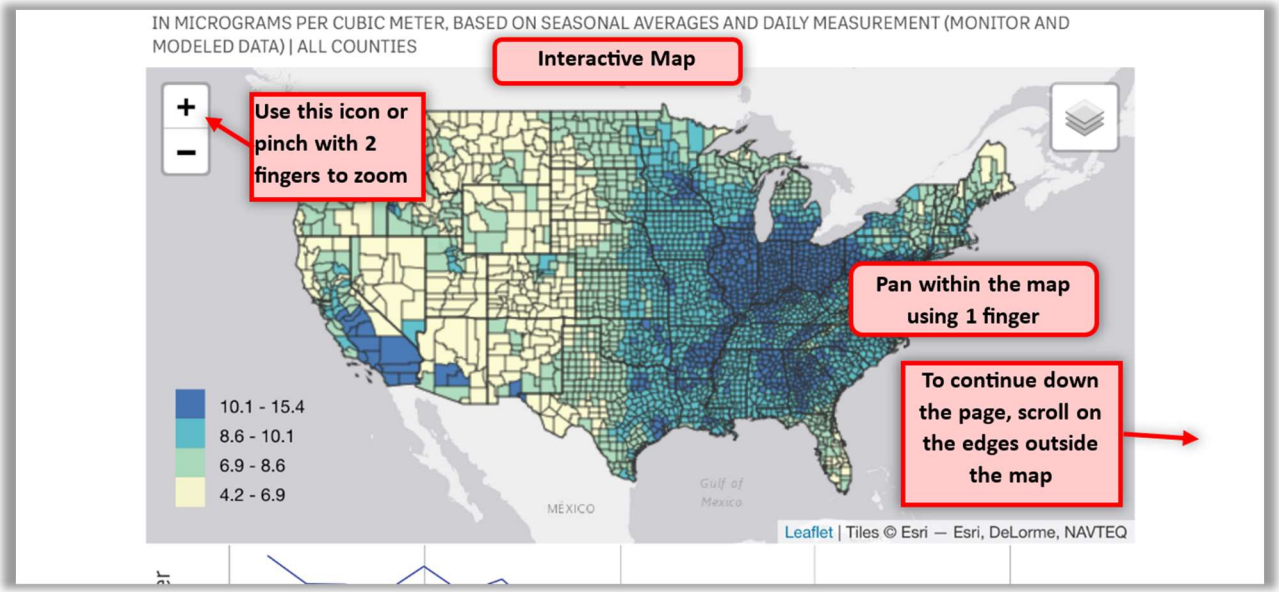


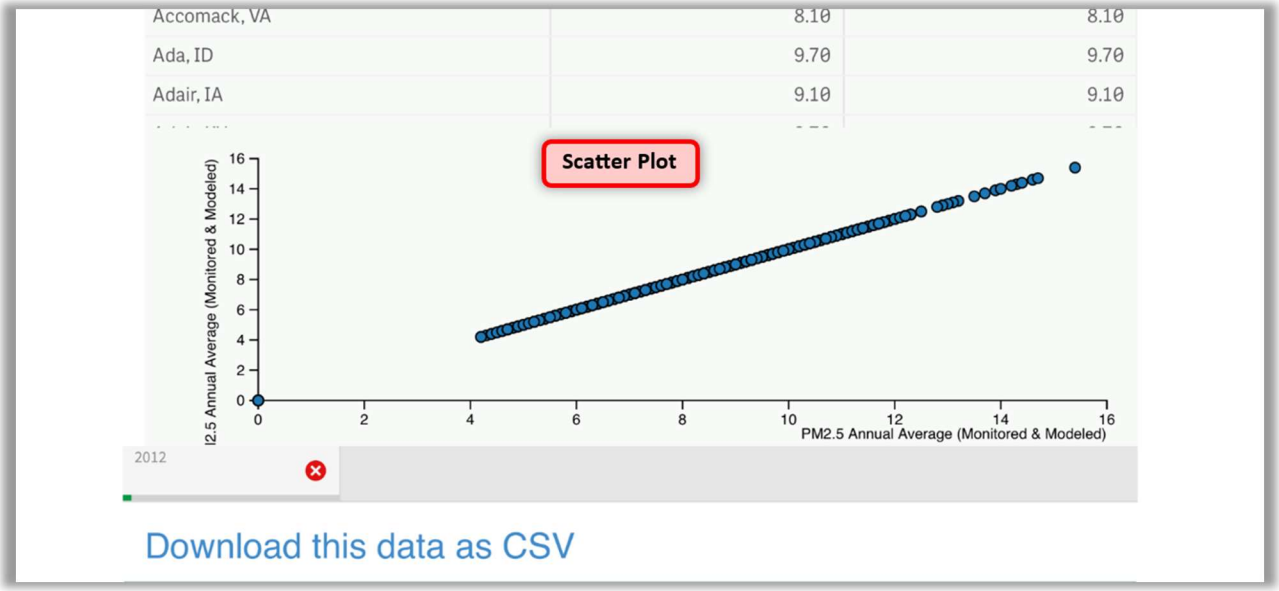



Selecting a Year
1) Filter by State (optional):
State
2) Year:
2012
3) Variable X:
PM2.5 Annual Average (Monitore
AIR QUALITY | ANNUAL PM2.5 LEVEL (M
IN MICROGRAMS PER CUBIC METER, B
MODELED DATA) | ALL COUNTIES
BIENT CONCENTRATIONS OF PM 2.5
ASUREMENT (MONITOR AND
2015
2014
2013
✓ 2012
2011
2010
2009

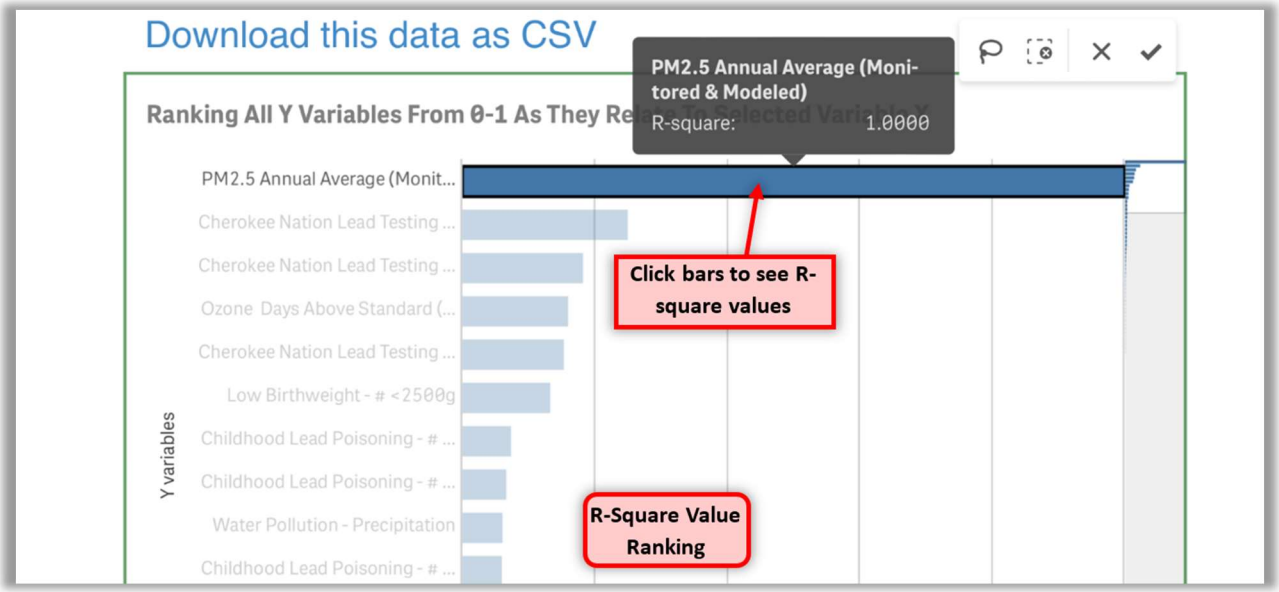

3) Variable X:
Selecting an X Variable
PM2.5 Annual Average (Monitored
AIR QUALITY | ANNUAL PM2.5 LEVEL (M
IN MICROGRAMS PER CUBIC METER, B
MODELED DATA) | ALL COUNTIES
BIENT CONCENTRATIONS OF PM 2.5
ASUREMENT (MONITOR AND
✓ PM2.5 Annual Average (Monitored & Modeled)
Ozone Days Above Standard (Monitored & Modeled) - CDC
Asthma - emergency department visits, age adjusted rate
Asthma – emergency department visits for asthma, rate
10.1 - 15.4
8.6 - 10.1
6.9 - 8.6


6.9 - 8.6
4.2 - 6.9
Tiles © Esri — Esri, DeLorme, NAVTEQ
PM2.5 Annual Average (Monitored & Modeled)
Ozone Days Above Standard (Monitored & Modeled) - CDC
Asthma - emergency department visits, age adjusted rate
Asthma – emergency department visits for asthma, rate
Value over Time
Selecting a Y Variable
2000
2005
2020
4) Variable Y:
PM2.5 Annual Average (Monitore
AIR QUALITY | ANNUAL PM2.5 LEVEL (M
IN MICROGRAMS PER CUBIC METER, B
MODELED DATA) | ALL COUNTIES
IENT CONCENTRATIONS OF PM 2.5
ASUREMENT (MONITOR AND


IN MICROGRAMS PER CUBIC METER, BASED ON SEASONAL AVERAGES AND DAILY MEASUREMENT (MONITOR AND MODELED DATA) | ALL COUNTIES
Interactive Map
Use this icon or pinch with 2 fingers to zoom
Pan within the map using 1 finger
To continue down the page, scroll on the edges outside the map
10.1 - 15.4
8.6 - 10.1
6.9 - 8.6
4.2 - 6.9
MÉXICO
Gulf of Mexico
Leaflet | Tiles © Esri — Esri, DeLorme, NAVTEQ



Note: The scatter plot's feature of drawing a line to select or delete points is available on mobile devices but is easier to use on a computer with a mouse.



Please keep in mind that the information in this guide will change periodically as we update the REHD-VI tool.