

# COLE User Manual

Updated 3.26.07

## Introduction

This manual is a basic guide to use COLE, the Carbon On Line Estimator. Screenshots and an example should help you understand how the program functions in order to perform your intended analysis. There are 2 modes of use: [Carbon Reports Only](#) and [Advanced User](#).

The COLE interface is designed to lead the user through generating an analysis. The program is organized in a linear manner, with each tab containing a major function. The user completes a query by sequentially selecting the tabs at the top of the interface. Tabs are made available once the user has satisfied the requirements on the previous tab. In addition, COLE has a consistent color scheme for buttons:

- Yellow: integrated help buttons - provide context-specific guidance and explanation
- Green: action buttons - select data and variables, execute analysis

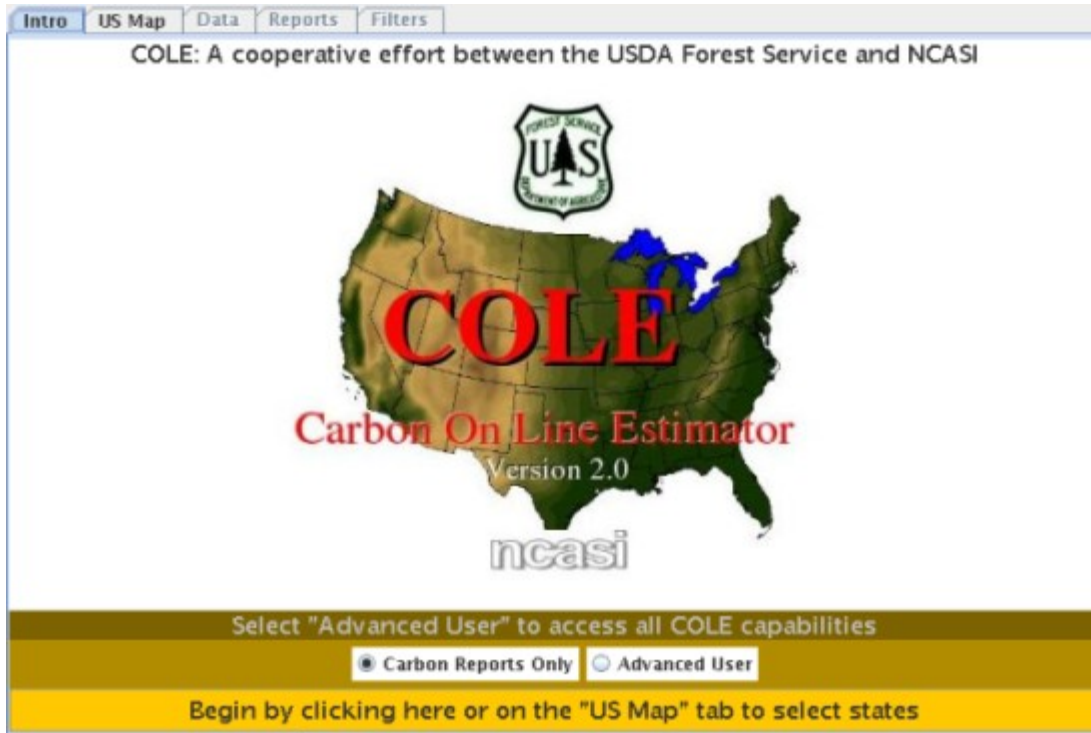
## Carbon Reports Only

COLE operates in "Carbon Reports Only" mode by default. Advanced COLE capabilities can be activated with Advanced User mode, which will be explained in the following section. In Carbon Reports Only mode, the user selects an area of interest then generates the C report. This can be achieved with just a few clicks. The format and type of analysis contained in the report has been predetermined by the COLE development team. The user

determines the area from which data is retrieved. Filters can be used to define a specific subset of that data. Let's walk through an example analysis.

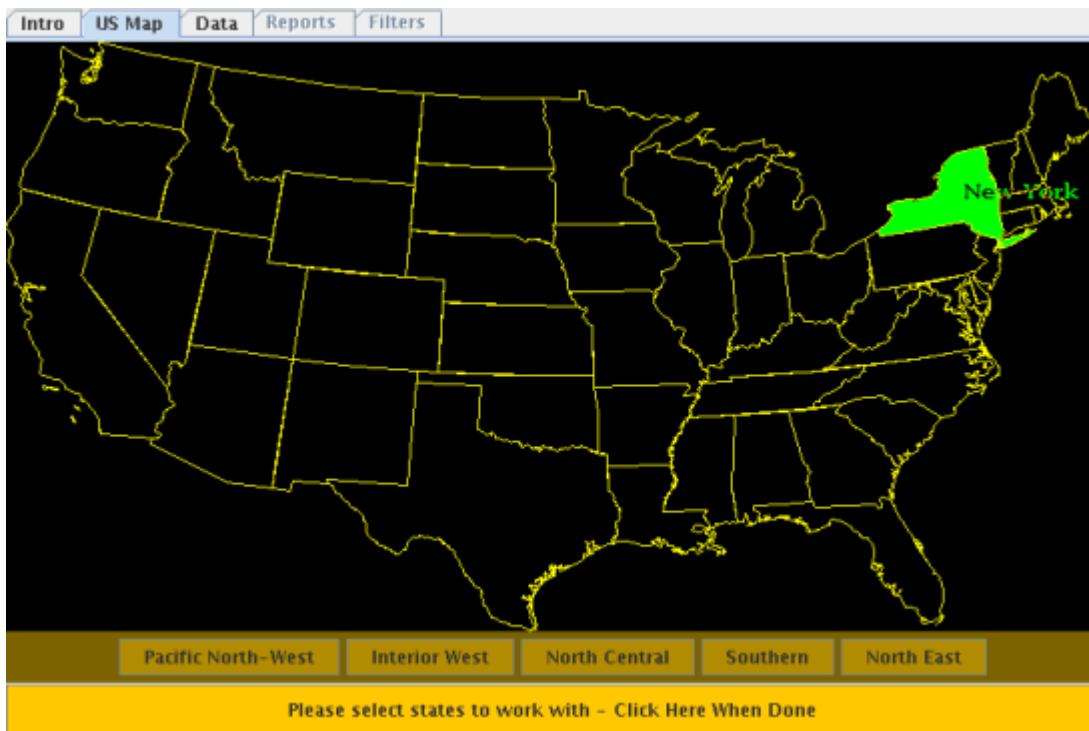
Suppose we're interested in generating a 1605(b) C report for the state of New York.

1. The **Intro** tab is COLE's startup screen. The user has the option to use Carbon Reports Only or Advanced Users mode. Leave the Carbon Reports button selected, and click on either the orange bar at the bottom of the screen or the **US Map** tab.



2. The **US Map** tab is where the user selects the state(s) to work with. When a state is selected, the state name pops up and the state is highlighted green. Forest Service regions can be selected with the 5 buttons (Pacific North-West, Interior West, etc) below the map. Be aware that regional state selection creates large datasets and can take some time to process.

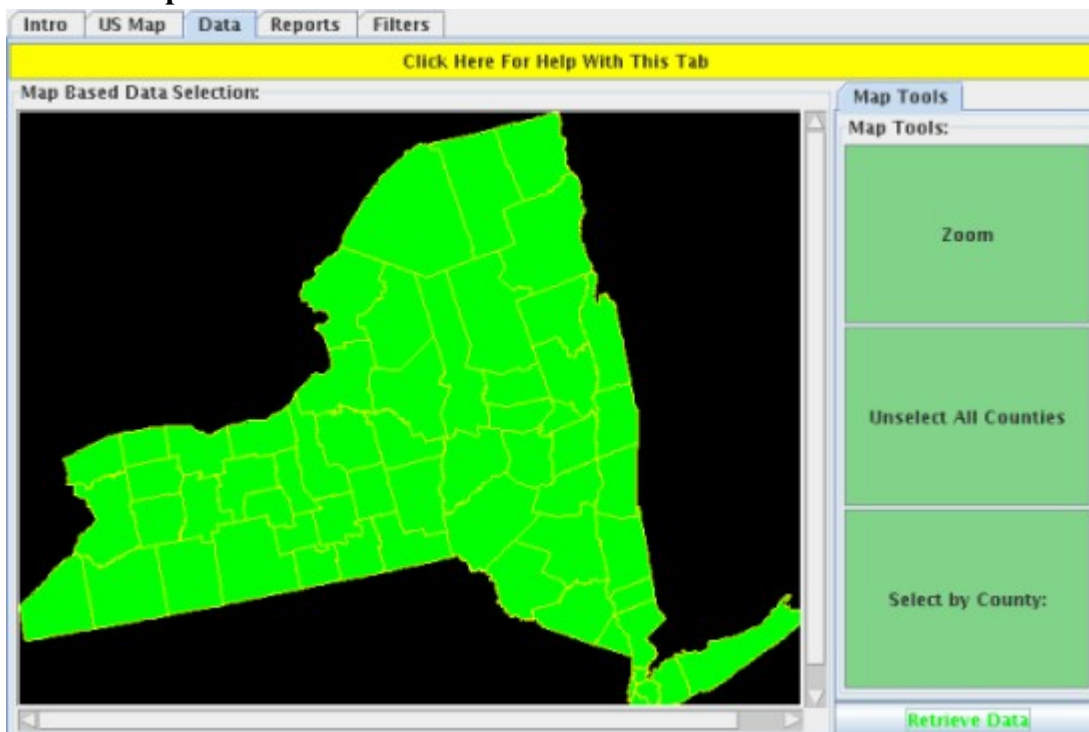
Example: Select New York then click on the orange bar at the bottom of the screen.



3. The **Data** tab is where the user selects counties to work with. Threertools are available on the **Data** tab:
- *Zoom*: left clicking zooms in, right clicking zooms out
  - *Select/Deselect All Counties*: selects or deselects all the counties at once
  - *Select by County*: activating this tool changes the map background color from black to grey. Counties can be individually selected.

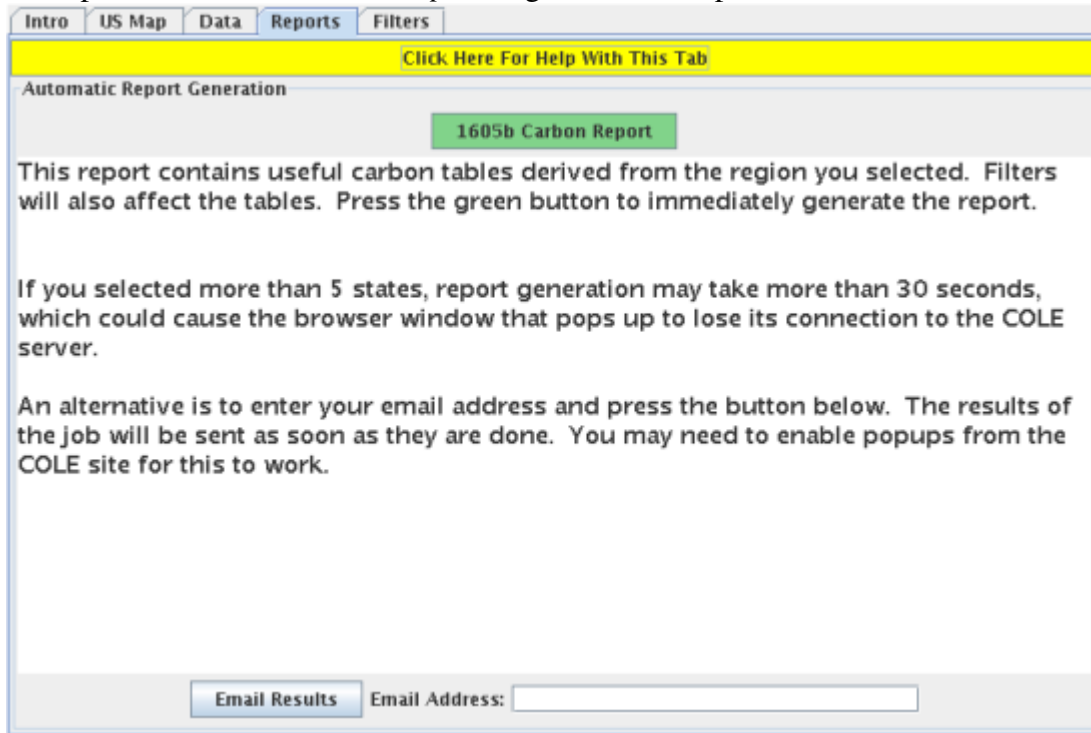
Once one or more counties have been chosen, click on the red *Retrieve Data* button. COLE loads your data, changes the *Retrieve Button* color to green, and makes the next set of tabs available.

Example: Choose all the counties of New York with the *Select All Counties* button then *Retrieve Data*. Click the **Reports** tab.



3. The **Reports** tab generates a pdf report that contains tables, maps and text describing the content of the report. Reports can be generated immediately by pressing *1605b Carbon Report* or they can be emailed to the user by pressing *Email Results* (explained in steps 7&8).

Example: Press *1605b Carbon Report* to generate a C report for New York.



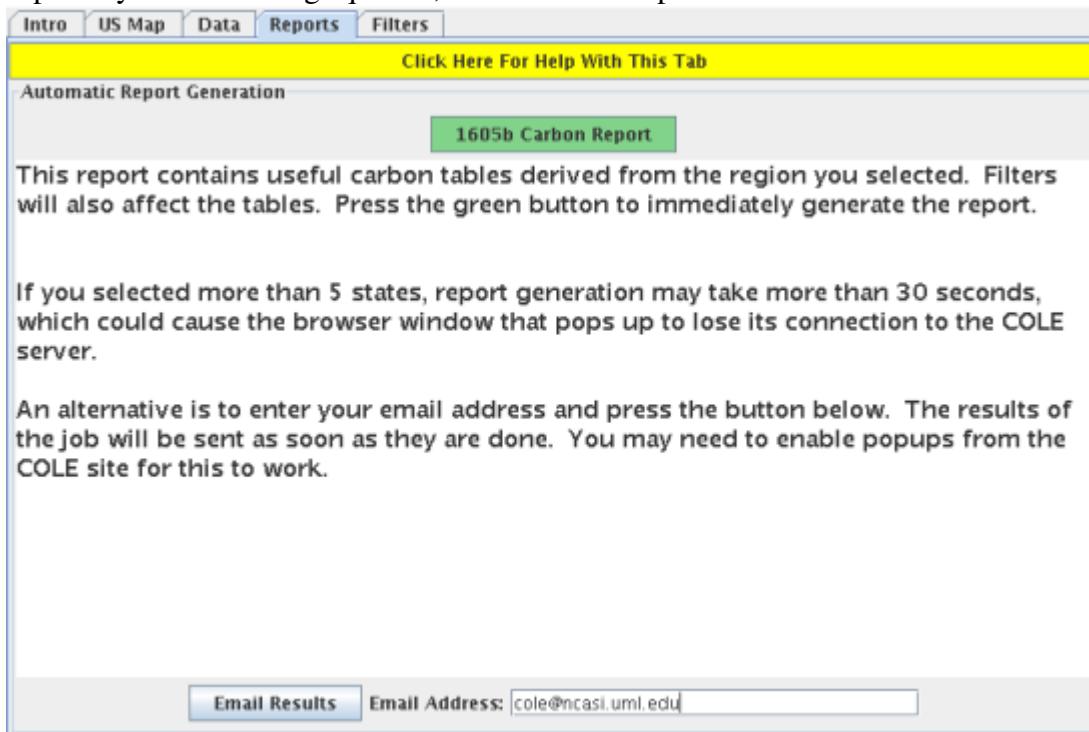
4. COLE's results pop up in a new window. The user sees a statement of which filters, if any, were applied to the data. There is also a link to the user's carbon report. Clicking on the report link downloads the pdf report.



5. Opening the report will display the title page that looks like the following image. Each report completely describes what data were used to generate the contents.
- The title contains the state(s) and any user-selected filters that affect the data
  - The date of generation
  - A map of which counties contributed data (last page)



6. If you would like COLE to email you your carbon report or any other COLE output (tables, charts, maps), enter your email address in the *Email Address* dialog box and press *Email Results*. This is especially useful for large queries, such as for multiple-states.

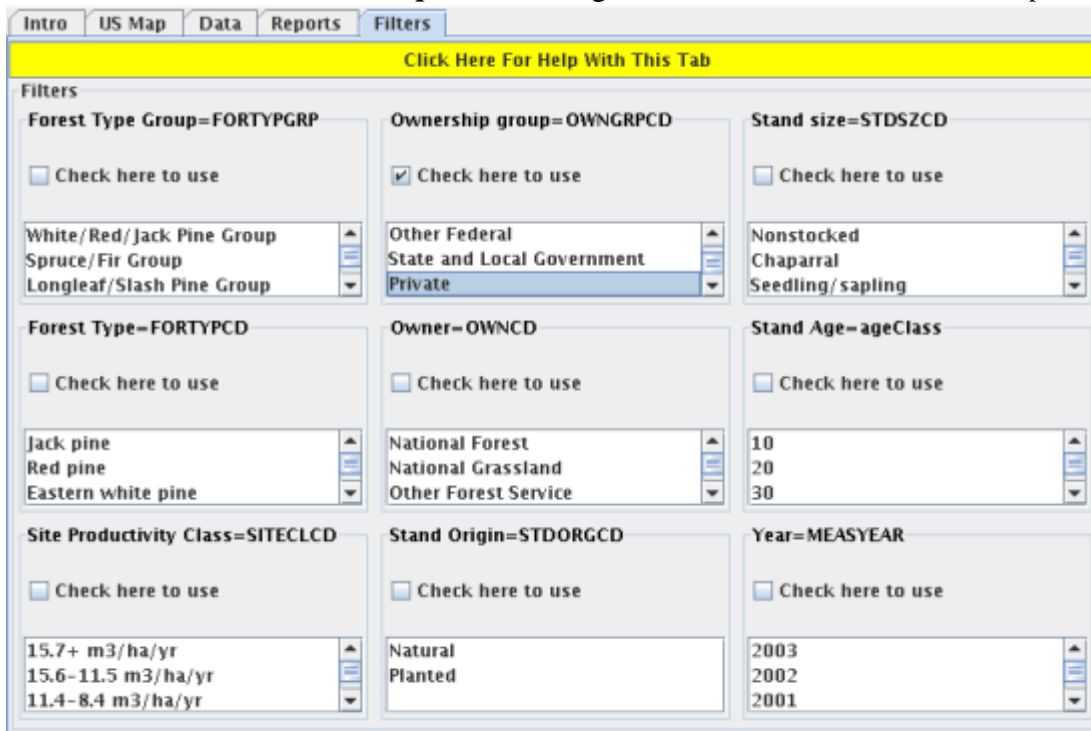


7. An output window opens where the user verifies their email address in the *Email Address* dialog box, then submits the request to the server by pressing *Send*.



8. Filters can be used to restrict data to a specific subset, like for a particular ownership group or forest type. Click on the **Filters** tab. A filter is activated by checking the box then selecting one or more elements. Hold Ctrl while left clicking for multiple selections.

Example: Activate the *Ownership Group* filter, scroll down to the bottom of the selection list and click on *Private*. Now move to the **Reports** tab and generate another *1605b Carbon Report*.



9. Opening this report shows that the title has changed to reflect the active filter.

COLE 1605(b) Report for New York filtered for  
Ownership Group: Private

COLE Development Group \*

May 4, 2005



**1 Abstract**

This is a standard report produced by COLE, The Carbon Online Estimator. The is an online package that was developed under a cooperative agreement between NCASI and the USDA Forest Service, RWU-4104 in Durham, NH.

\*NCASI: <http://ncasi.sasf.edu/>, USDA Forest Service: <http://www.fs.fed.us/nr/durham/4104/>

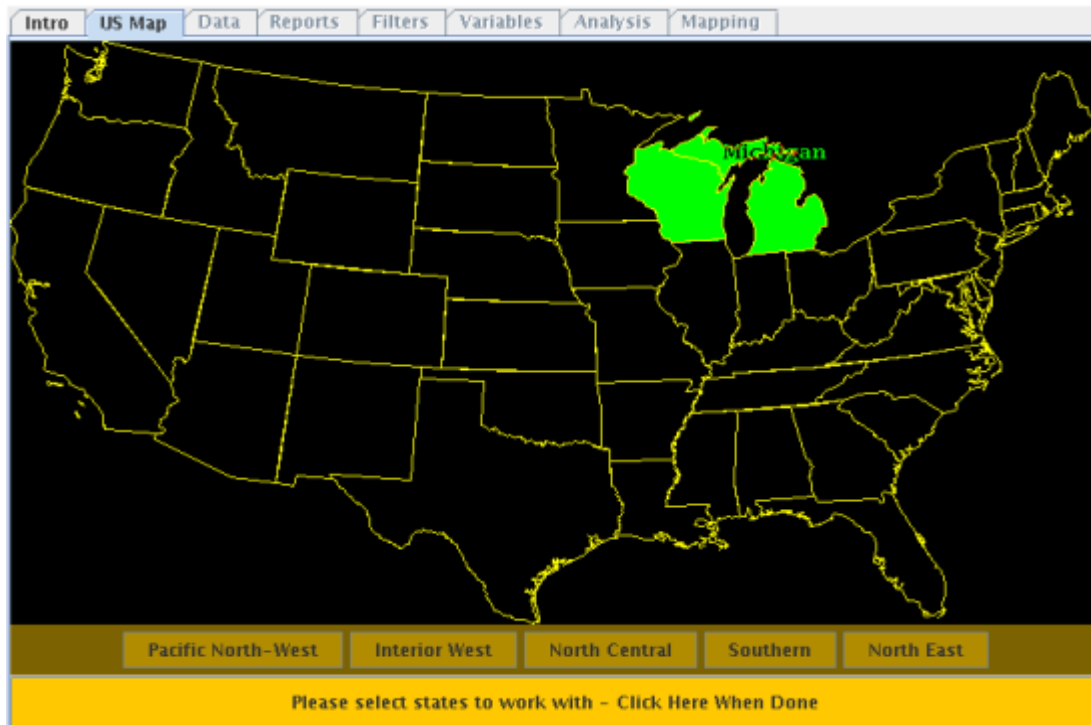
## Advanced Users

1. Select the Advanced Users button on the **Intro** tab, then click on either the orange bar at the bottom of the screen or the **US Map** tab.

The screenshot shows the top navigation bar with tabs: Intro, US Map, Data, Reports, Filters, Variables, Analysis, and Mapping. Below the tabs is a header: "COLE: A cooperative effort between the USDA Forest Service and NCASI". The main content area features the COLE logo and map. At the bottom, there is a dark green bar with the text "Select 'Advanced User' to access all COLE capabilities" and two radio buttons: "Carbon Reports Only" (unselected) and "Advanced User" (selected). Below this is a yellow bar with the text "Begin by clicking here or on the 'US Map' tab to select states".

2. The **US Map** tab is where the user selects the state(s) to work with. When a state is selected, the state name pops up and the state is highlighted green. Forest Service regions can be selected with the 5 buttons (Pacific North-West, Interior West, etc) below the map. Be aware that regional state selection creates large datasets and can take some time to process.

Example: Select Wisconsin and Michigan then click on the orange bar at the bottom of the screen.

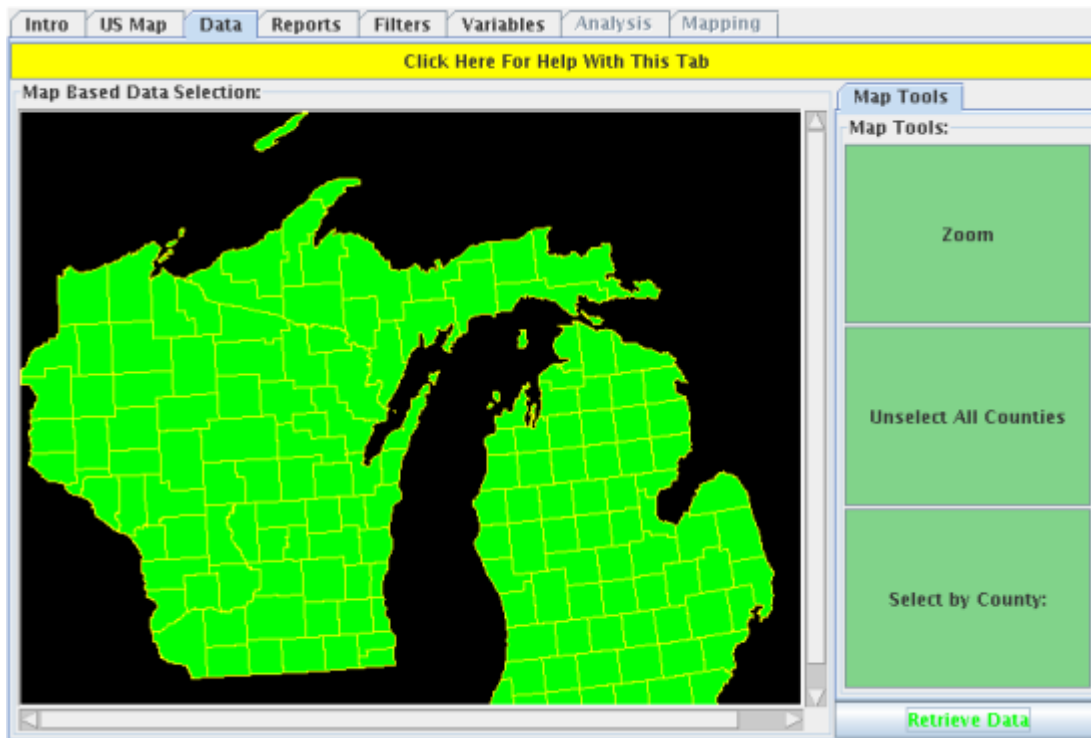


3. The **Data** tab is where the user selects counties to work with. Three tools are available on the **Data** tab:
- *Zoom*: left clicking zooms in, right clicking zooms out
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Once one or more counties have been chosen, click on the red *Retrieve Data* button. COLE loads your data, changes the *Retrieve Button* color to green, and makes the next set of tabs available.

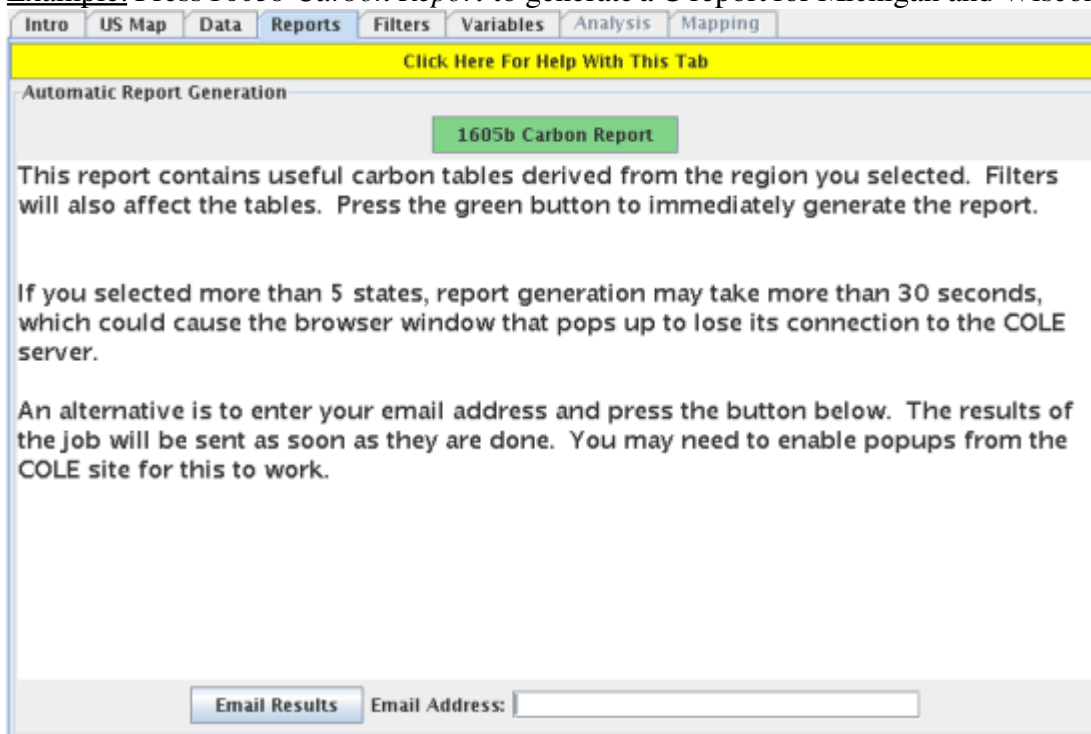
Example: Choose all the counties of Wisconsin and Michigan with the *Select All Counties* button then *Retrieve Data*. Click the **Reports** tab.



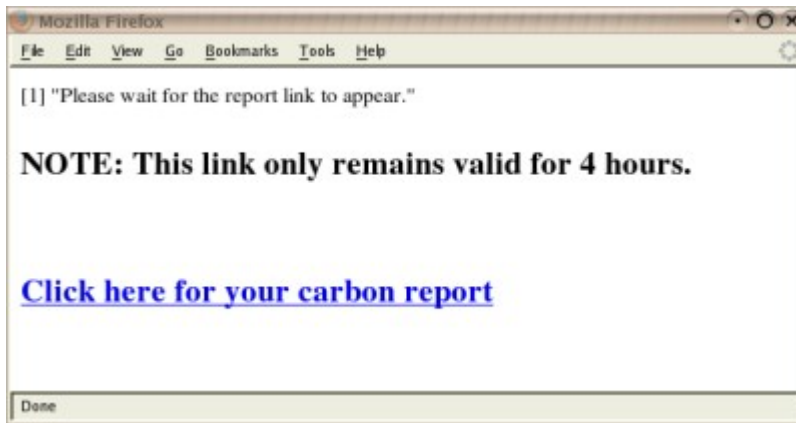


- The **Reports** tab generates a pdf report that contains tables, maps and text describing the content of the report. Reports can be generated immediately by pressing *1605b Carbon Report* or they can be emailed to the user by pressing *Email Results* (explained in steps 7&8).

Example: Press *1605b Carbon Report* to generate a C report for Michigan and Wisconsin.



- COLE's results pop up in a new window. The user sees a statement of which filters, if any, were applied to the data. Clicking on the report link downloads the pdf report.

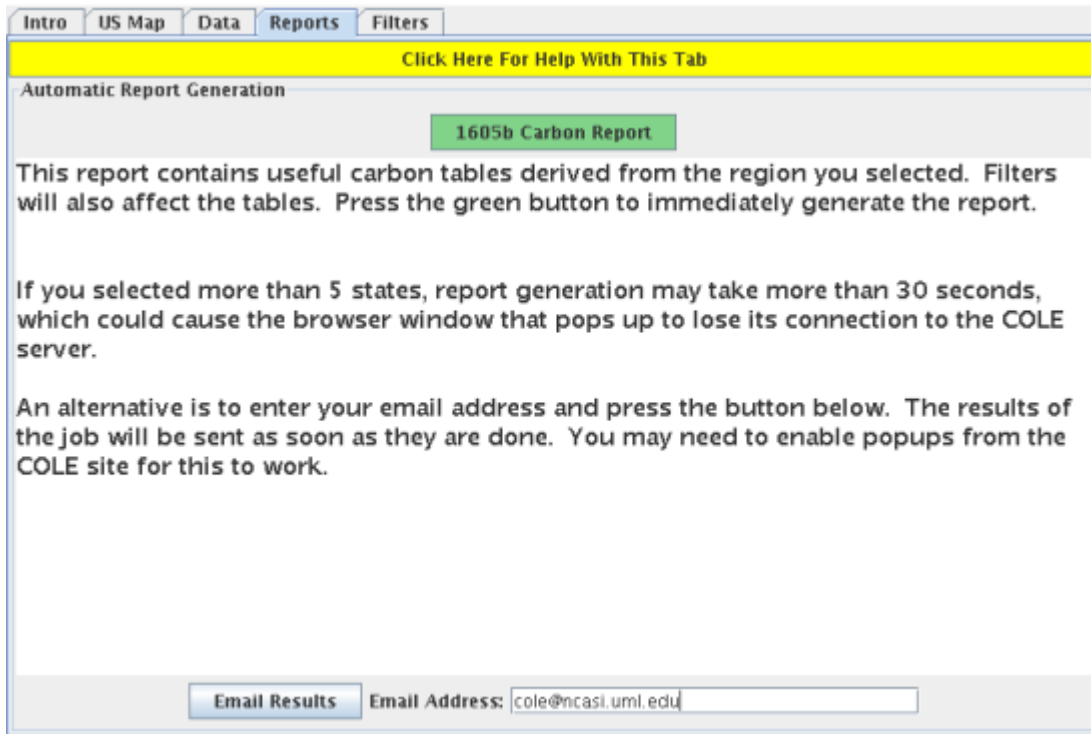


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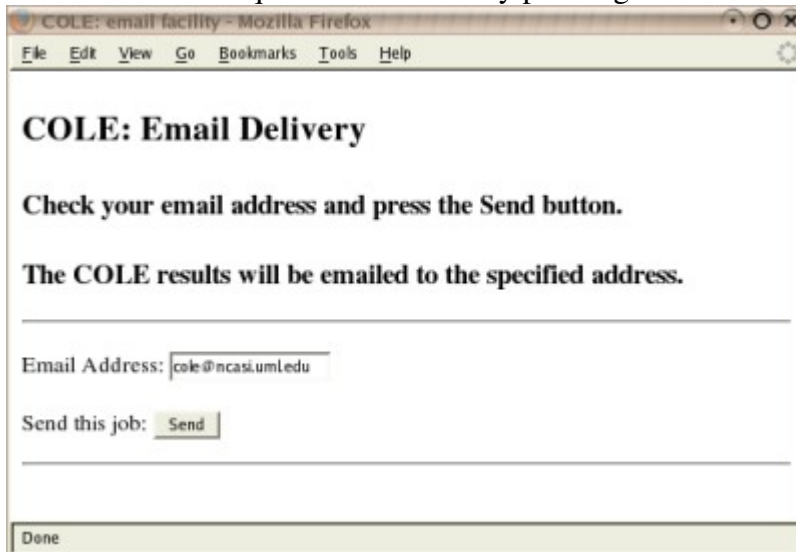
- The title contains the state(s) and any user-selected filters that affect the data
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7. An output window opens where the user verifies their email address in the *Email Address* dialogue box, then submits the request to the server by pressing *Send*.



8. Filters can be used to restrict data to a specific subset, like for a particular ownership group or forest type. Click on the **Filters** tab. A filter is activated by checking the box then selecting one or more elements. Hold Ctrl while left clicking for multiple selections.  
Example: Activate the *Ownership Group* filter, scroll down to the bottom of the selection list and click on *Private*. Now move to the **Reports** tab and generate another *1605b Carbon Report*

Intro US Map Data Reports **Filters** Variables Analysis Mapping

Click Here For Help With This Tab

**Filters**


<p><b>Forest Type Group=FORTYPGRP</b></p> <p><input type="checkbox"/> Check here to use</p> <p>White/Red/Jack Pine Group Spruce/Fir Group Longleaf/Slash Pine Group</p>	<p><b>Ownership group=OWNGRPCD</b></p> <p><input checked="" type="checkbox"/> Check here to use</p> <p>Other Federal State and Local Government Private</p>	<p><b>Stand size=STDSZCD</b></p> <p><input type="checkbox"/> Check here to use</p> <p>Nonstocked Chaparral Seedling/sapling</p>
<p><b>Forest Type=FORTYPCD</b></p> <p><input type="checkbox"/> Check here to use</p> <p>Jack pine Red pine Eastern white pine</p>	<p><b>Owner=OWNCD</b></p> <p><input type="checkbox"/> Check here to use</p> <p>National Forest National Grassland Other Forest Service</p>	<p><b>Stand Age=ageClass</b></p> <p><input type="checkbox"/> Check here to use</p> <p>10 20 30</p>
<p><b>Site Productivity Class=SITECLCD</b></p> <p><input type="checkbox"/> Check here to use</p> <p>15.7+ m3/ha/yr 15.6-11.5 m3/ha/yr 11.4-8.4 m3/ha/yr</p>	<p><b>Stand Origin=STDORGCD</b></p> <p><input type="checkbox"/> Check here to use</p> <p>Natural Planted</p>	<p><b>Year=MEASYEAR</b></p> <p><input type="checkbox"/> Check here to use</p> <p>2003 2002 2001</p>

9. Opening this report shows that the title has changed to reflect the active filter.

COLE 1605(b) Report for Michigan, and Wisconsin  
filtered for Ownership Group: Private

COLE Development Group \*

May 4, 2005



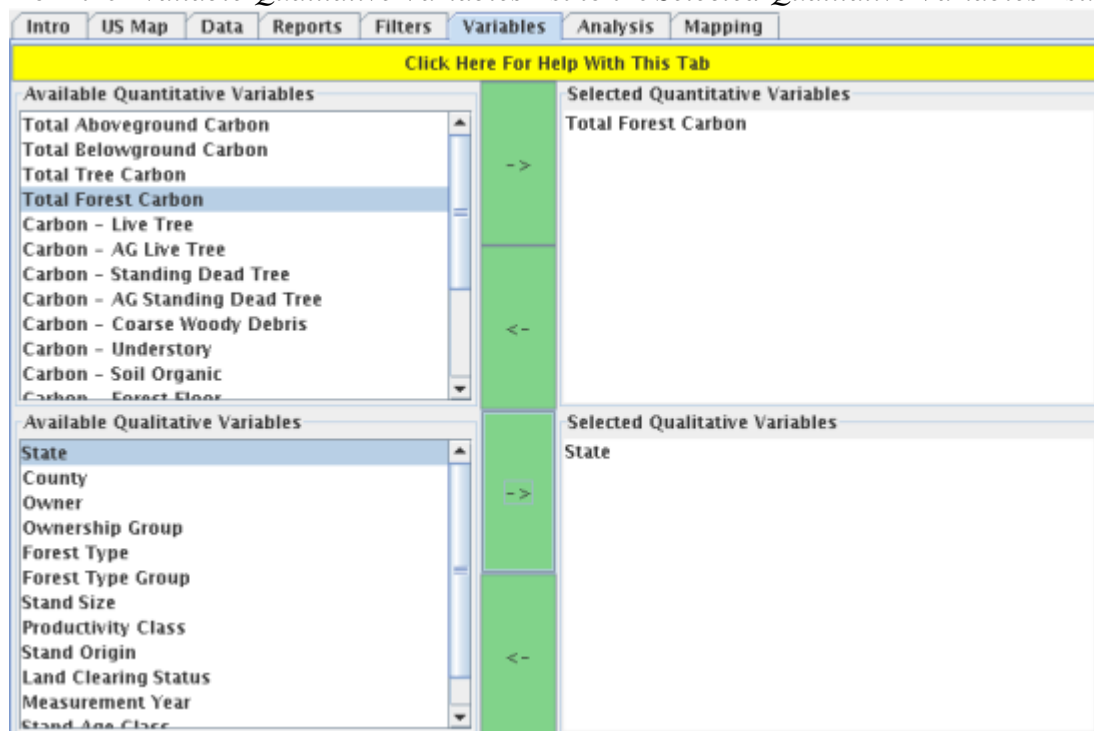
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\*NCASI: <http://ncasi.unl.edu/>, USDA Forest Service: <http://www.fs.fed.us/nw/durham/4104/>

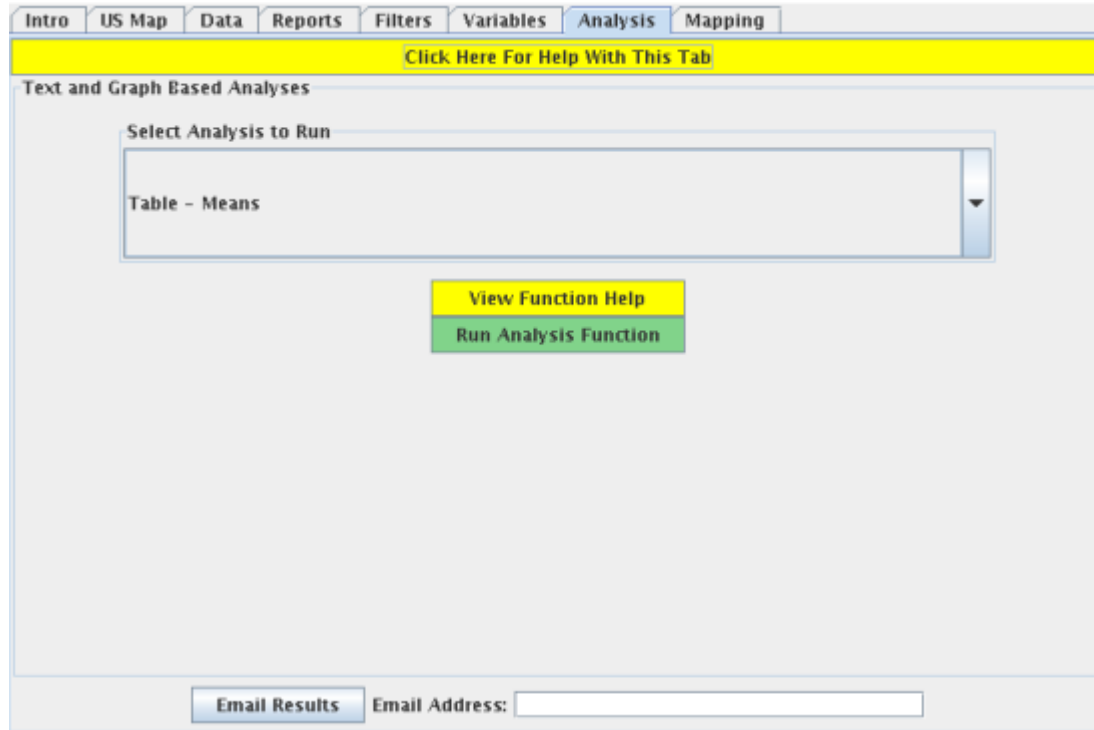
10. Additional analysis capabilities are available in Advanced User mode. The **Variables** tab is the first step to advanced analyses. Two groups of variables are required for all analyses, Quantitative and Qualitative (or categorical). Variables are moved from the Available to Selected lists with the appropriate button in the middle. Definitions of each variable are located the integrated help file (yellow bar). Once variables have been selected, the **Analysis** and **Mapping** tabs become available. Example: Left click on *Total Forest Carbon* in the *Available Quantitative Variables* list and move it to

the *Selected Quantitative Variables* list with the right-facing green arrow between the lists. Move *State* from the *Available Qualitative Variables* list to the *Selected Qualitative Variables* list.



11. Tabular, graphical or linear model analyses are launched from the **Analysis** tab. Select the analysis from the drop down menu, then click the green *Run Analysis Function* button. Specific help files for each analysis can be displayed with the yellow *View Function Help* button.

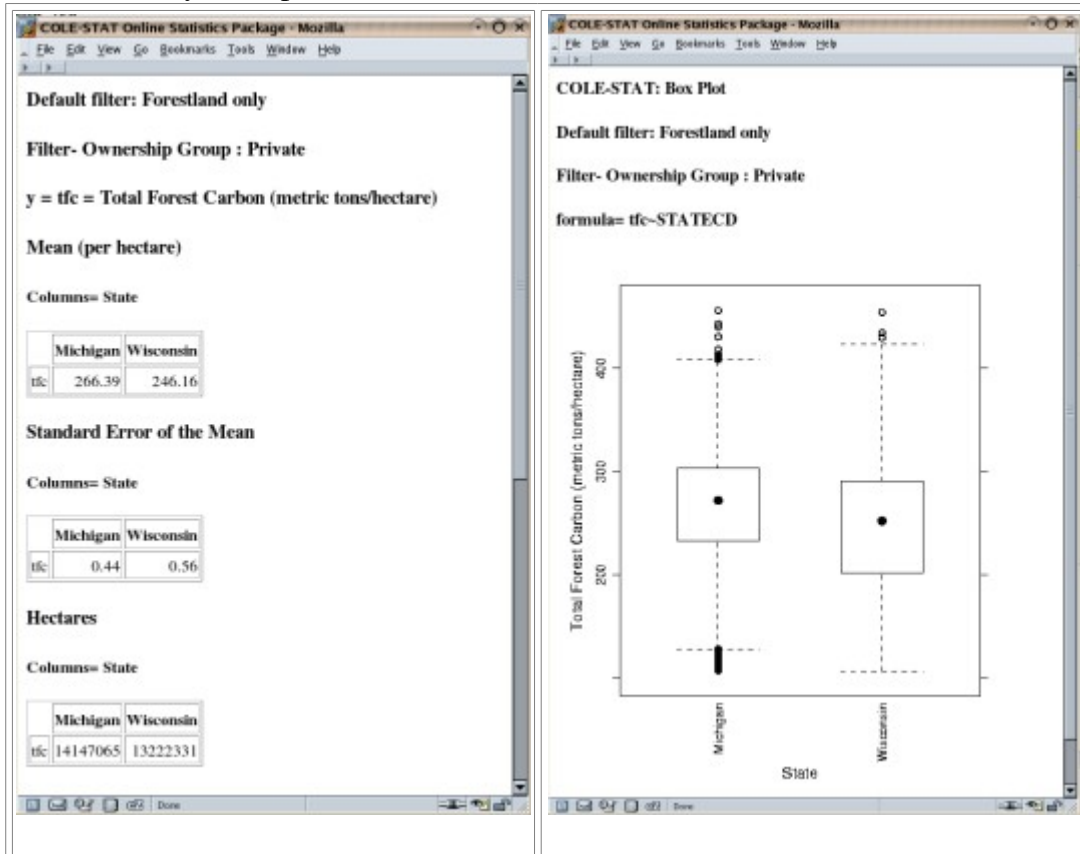
Example: Left click the *Select Analysis to Run* drop-down menu, select *Table - Means*, then click *Run Analysis Function*.



12. The output from running the *Table - Means* analysis is shown on the left. There is additional

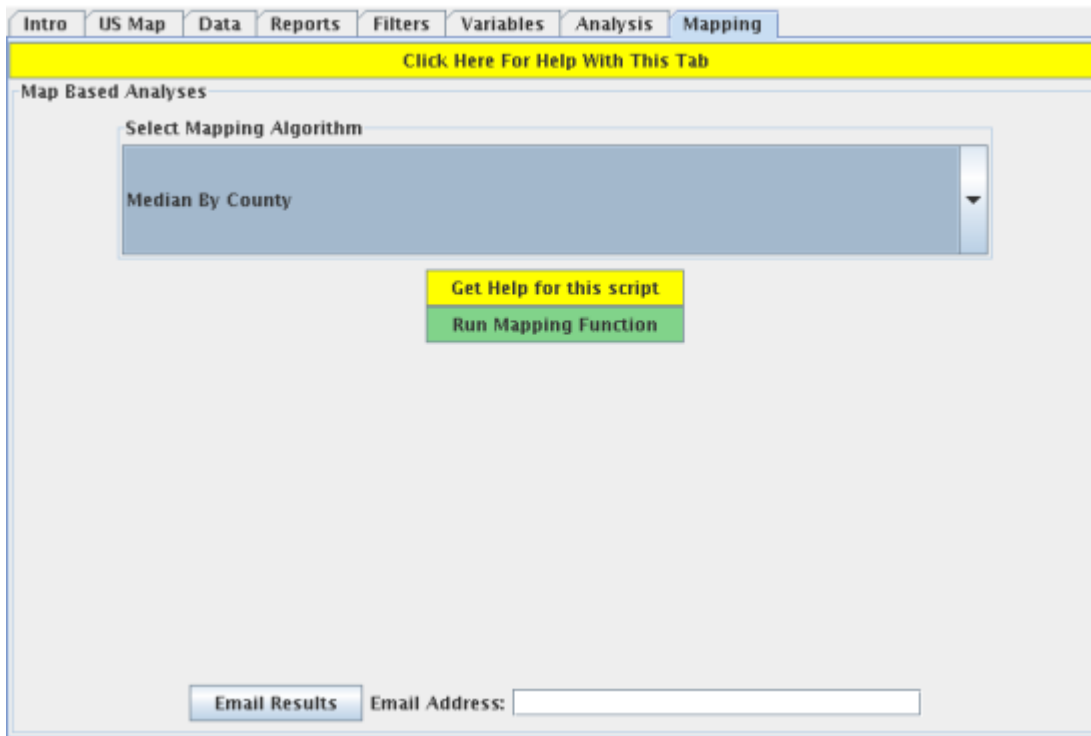
information if you scroll down. A box plot of the same data is shown on the right. All COLE output features the following information:

- Filter status
- Variable
- Analysis type
- Analysis output



14. The **Mapping** tab is the final tab of the interface. Mapping functions are selected from the drop-down box, then executed with the green *Run Mapping Function*.

Example: Select *Median by County* from the *Select Mapping Algorithm* drop-down box. Click on the green *Run Mapping Function* button.



15. Mapping output shows the spatial distribution of the Quantitative variable by county over the area of interest. State names and variable are stated in the map title, and a legend defines the range of each class.

