COLE: Carbon OnLine Estimation Web Tool
for US Continental Forest Ecosystems

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COLE enables a user to choose all or a portion of the conterminous United States, and for this area returns reports, estimates, and maps of forest carbon sequestration. The JAVA-based user interface is powerful and easy-to-use, and the R-based statistical analysis engine offers diverse analysis options. Carbon estimates are derived from USDA Forest Service, Forest Inventory and Analysis data and other ecological data, and include multiple components of above- and below-ground carbon stocks and carbon stock change.

The COLE User Interface:

The COLE user interface is written in JAVA, which allows COLE to run in any web browser. The sequentially tabbed layout guides users through the analysis process. Users select an area of interest using a variety of geo-spatial selection tools in the *COLE Map* tab (Figure 1). Variables are specified on the *Variable Selection* tab, and analysis is executed from the *Analysis* or *Mapping* tabs. Integrated help buttons assist the new user. Color accentuates important interface features.

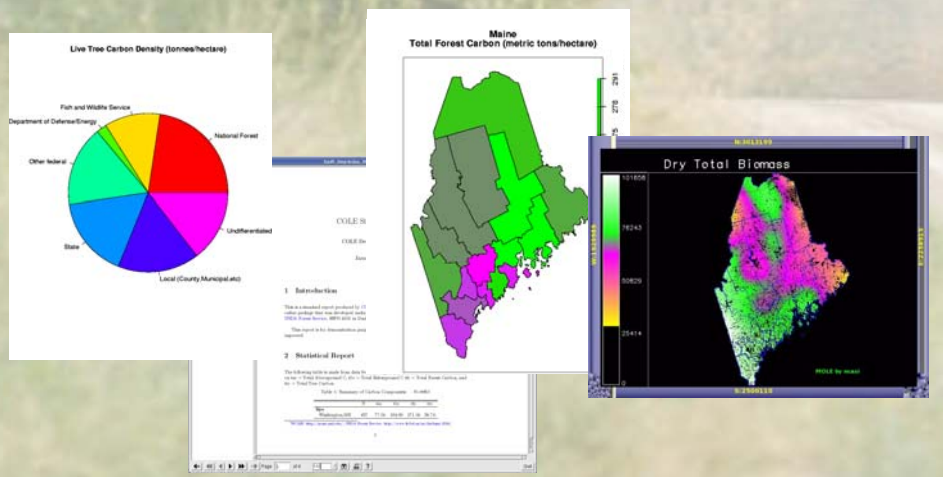

Figure 2: COLE 2.0 Output

The COLE Engine:

The COLE engine utilizes the power of the R statistical language and modular programming techniques. R provides functional stability and speed to help optimize data retrievals, and modularity allows for outside development of analysis algorithms.

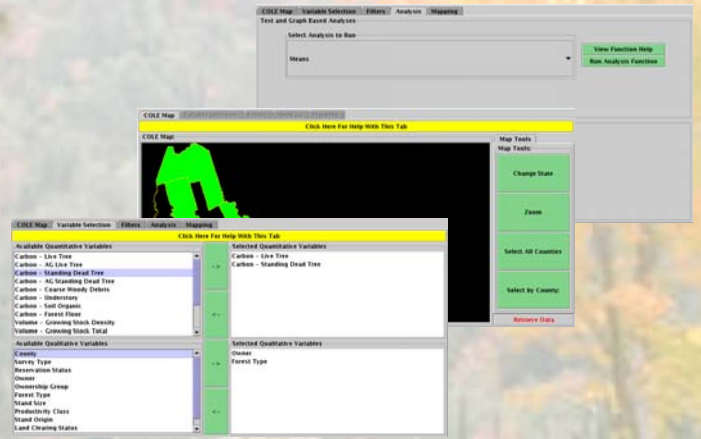

Figure 1: The COLE 2.0 Interface

COLE Output: Many Options

Analysis complexity ranges from basic “one-click” analyses to advanced statistical analysis, producing raw data CSV files, HTML tables, various graphs and charts, linear models, and PDF reports (Figure 2). Pixel-based maps are under development.

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Access COLE at
http://ncasi.uml.edu/COLE/