Online Mapping and Spatial Resources for the Private Forest Landowner

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The Longleaf Alliance 2012 Summer Webinar Series

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Gilbert and Kush 2012
Outline

• Introduction and Objectives
• Overview of online mapping and spatial resources
• USDA/NRCS Web Soil Survey
• Google Earth
• Alabama Historic Photo Archive
• USDA NRCS Geospatial Data Gateway
• USDA National Agroforestry Center CanVis
• Question and Answer Session
Introductions

• My background

• Who is attending (private landowners, conservation professionals, others)?

• Why are you interested in online mapping?

• What types of maps do you want to create?
Objectives and Outcomes

• Attendees will be introduced to online programs to acquire spatial data and to make maps using aerial photography, soils information, and topographic layers for a variety of forestry and other natural resource based activities.

• Attendees will be introduced to ways they can create, store, and share points, lines, and polygons for features on the ground.

• Attendees will also get an overview of additional online data sources and visual simulations.

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Spatial Resources

• Rapid expansion of technology

• GPS (Global Position System)

• GIS (Geographic Information System)

• Rule rather than the exception!

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Questions

• How many of you have ever used a GIS?

• How many of you have ever used a GPS Unit?

• How many of you have ever used Map Quest or maybe Google Earth?

• How many of you have ever used TatukGIS, FGIS, or even ArcGIS?
Spatial Opportunities

• Basic navigation
• Identify site and stand locations
• Utilize both tabular and spatial data
• Planning and management activities
• Storing and sharing information
• Tools often available online and free

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Identify Areas of Interest

- Timber stands
- Roads
- Gates
- Streamside Management Zones (SMZs)
- Stream Crossings
- Logging decks and hazards
- Wildlife food plots
- Burn plans
- Agroforestry/silvopasture areas
Why Are You Interested in Maps?

• Simple Monitoring and Planning

• Natural Resource Management.
  – Forestland and timber production
  – Agriculture
  – Nontimber products
  – Leases

• Multiple Use Management

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What about Spatial Resources?

• Often GIS is only thought of as a tool to create a map.

• A map can be a truly valuable product of GIS and one of the most commonly thought of product.

• However, GIS is so much more……
GIS

- Geographical Information System (GIS) is defined as an integrated system of computer hardware, software, data, and workflow procedures for collecting, storing, analyzing, and disseminating information about areas of the earth. - defined by ESRI the company that produces ArcGIS

- GIS = spatial + descriptive data in one location

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How can this help you?

- Upload GPS data
- Create maps
- Store spatial information
- Calculate areas
- Conduct analyses
- Build databases

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Basic Types of Maps

- Stand map
- Aerial photography
- Topographic
- Soils information

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3D Stand Simulations

• Stand visualization

• Produces a 3D stand

• Image editing

• Realistic simulations

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Landowners are Interested but Skeptical

• Have you ever been interested in making maps for your property?

• Are you worried it will be too technical or complicated?

• Do you have a computer and internet access?
Mapping Your Land: An Overview for Landowners

Online Mapping and Spatial Resources for the Private Forest Landowner

www.auburn.edu

Gilbert and Kush 2012
Online Mapping and Spatial Resources for the Private Forest Landowner

• Funding from an Alabama Forests Forever Grant

• 225 copies printed

• See Longleaf Pine Stand Dynamics Lab website: http://www.lpsdl.auburn.edu/

• Booklet available online at: http://www.lpsdl.auburn.edu/pdfs/MappingBook_FINAL.pdf

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How to Use this Booklet

- Designed for private landowners and conservation professionals

- Provides tutorial information with to help users to make maps, acquire, and store data for an area of interest

- 5 sections, each with keywords, homepage links, tutorial information, examples, screen-shots, and tips

- See **red ovals and lines** for highlighted information

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Tips and Suggestions

• Labeled in red print

• Basic instructions like clicking
  – Double-clicking
  – Right-clicking
  – Click and drag

• Information about warnings and issues with browser settings

• Links to download additional programs

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Disclaimer

• These examples are for educational purposes only. There are no guarantees of any kind. The user assumes all risks with viewing, downloading, saving etc. online programs and products. The user is responsible for determining if the needed level of accuracy of the data meets the desired level for decision making. The authors are not liable or responsible for the use or incorrect use of this data. No guarantees, warranties, etc. are made, expressed, or implied for this brochure (including but not limited to accuracy, completeness, etc). Use this information at your own risk and liability. Please use the credit information when displaying, summarizing, or using all or any part of this information. Please note that websites are constantly changing and being updated, and links and screenshots may not match exactly as these updates are completed.
Today’s Presentation

• Following the layout of the booklet

• In-depth look at:
  – USDA/NRCS Web Soil Survey
  – Google Earth
  – Alabama Historic Photo Archive

• Overview of:
  • USDA/NRCS Geospatial Data Gateway
  • USDA National Agroforestry Center CanVis

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NRCS Web Soil Survey (WSS)
USDA Natural Resources Conservation Service (NRCS) Web Soil Survey

- Online application
- Locate a piece of property or an area of interest
- Create a boundary for the area of interest
- Display soil information with aerial photographs and/or topographic layers as backgrounds
- Create maps
- Create basic or detailed soil reports

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USDA/NRCS Web Soil Survey (WSS)

• The WSS can be used to create a soil maps and explore the online soil surveys.

• Available at http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm


• Keywords: NRCS, Soil, Survey
NRCS Web Soil Survey (WSS)

• Has anyone ever used WSS before?

• If yes, for what applications?

• Why are soils maps and information important to forestry and other natural resources?
Welcome to Web Soil Survey (WSS)

Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation’s counties and percent in the near future. The site is anticipated having 100 percent updated and maintained online as the single authoritative source of soil survey information.

Three Basic Steps

1. Define...

Use the Area of Interest (AOI) to define your area of interest.

Announcements/Events

- Web Soil Survey Release History

I Want Help With...

- How to use Web Soil Survey
- How to use Web Soil Survey Online Help
- Known Problems and Workarounds
- Frequently Asked Questions
- Citing Web Soil Survey as a source of soils data
Getting Started with the WSS

- Explore the toolbar
- Search for an Area of Interest (AOI)
- Define the AOI

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Mapping Basics and Units

• How to find an area of interest?
  — Address
  — Section, Township, Range
  — Coordinates
    ▪ Lat,long
    ▪ UTM

• We often collect GPS data to make maps of locations of interest and need to know what units were used to collect the data.

• Know your units!
Example Soils Map for the Donahue Tract

• The example tract that will be used to for this brochure is call the Donahue Tract.

• The Donahue Tract is located west of the intersection of “Donahue Dr. and Woodfield Dr. on the Auburn University Campus.
Define the Area of Interest (AOI)
### Lee County, Alabama (AL081)

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Marvyn loamy sand, 1 to 6 percent slopes</td>
<td>17.6</td>
<td>79.8%</td>
</tr>
<tr>
<td>25</td>
<td>Marvyn loamy sand, 6 to 10 percent slopes</td>
<td>4.5</td>
<td>20.2%</td>
</tr>
</tbody>
</table>

**Totals for Area of Interest**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22.0</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Data Storage and Sharing

- Create a printable version of the map
- Save maps as a .pdf (Portable Document Format)
- Create custom reports
- Professional maps and reports
- See examples

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Example Soils Information for 2,000 acres

Soil Map—Covington County, Alabama
(Example Soils Map)

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Custom Report

• The Custom Report can be printed, saved, and emailed following the same directions as with the “Printable Version”.

• The Custom Report provides more detailed information about the soil survey, map unit descriptions, soil descriptions.
Custom Soil Resource Report for
Lee County, Alabama
Donahue Tract

United States
Department of Agriculture
NRCS
Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants.

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Exploring Soils Information

• Use the Soil Data Explorer
  – Introduction to Soils
  – Suitabilities and Limitations for Use
    • Land Management
      – Haul Roads and Log Landing Limitations
    • Vegetation Productivity
      – Site Index
  – Soil Properties and Qualities
  – Soil Reports

Gilbert and Kush 2012
Example Site Index Map
Example Map for Haul Roads and Log Landing Limitations

Gilbert and Kush 2012
Adjusting Map Legend

• The map legend can also be adjusted to change options like the AOI, political features, federal land, water features, transportation, and background.

• A map can be created with a topographic background.
Tips and Troubleshooting

• If WSS is not working, check the system requirements to run the program. See http://websoilsurvey.nrcs.usda.gov/app/Help/Requirements.htm.

• “Want” and “Help” Menus are located on the right side of the WSS homepage.

• For more instructions see http://websoilsurvey.nrcs.usda.gov/app/Help/WSS_HomePage_HowTo.pdf

• It may be necessary to turn off the Pop-up blocker/allow Pop-ups from the WSS website.

• Some of the process might take time to complete, Be patient.

• The session can also timeout if there is a long period of inactivity, which will require starting over.

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NRCS Web Soil Survey

• What are some applications you could see this program being used for?

• What would you use it for?
Google Earth

• Requires downloading a program
• Locate a piece of property or area of interest
• Store location and description information
• Create placemarks or points (gates, deer stands, start of a path, etc.)
• Create paths or lines for roads, streams, etc.
• Create boundaries for timber stands, fields, etc.
• Create maps
• Get directions

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Google Earth Use and Tutorial Information

• Main website
  – © 2011 Google

• Google Earth is free to use, but it requires the software to be downloaded, installed, and an internet connection.
  http://www.google.com/earth/download/ge/

• Keywords: Google Earth
System Requirements

• Can be used on PC’s, Mac’s, and Linux systems

• Basic system needs
  – 512 MB of RAM
  – 400 MB of free space on hard drive
  – DirectX9 and 3D capable with 64/256MB of VRAM

  – See http://earth.google.com/support/bin/answer.py?answer=20701 for more detailed minimum and recommended system requirements by operating system
Google Earth

• Has anyone ever used Google Earth before?

• If yes, for what applications?

• Have you ever used Google Earth to store information (points, lines, polygons, attribute data) about a particular area?
Google Earth

• Provides aerial photography as a background with options to add more layers

• Google Earth can be used to:
  – Locate property or areas of interest
  – Store location and description information
    • Create placemarks or points for an area of interest
    • Create paths or lines for roads, streams, etc.
    • Create boundaries for timber stands
  – Get directions

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Navigating

• Use the toolbar (right)
  – To turn the map different directions
  – To move the view
  – To zoom in and out

• Other options include:
  – Using the mouse, click (left mouse button) the screen and drag
  – Using the scroll button on the mouse (if applicable)
  – Using the arrow keys and “Ctrl” on the keyboard

• Explore the toolbar and practice clicking the various tools
Coordinates and Units
Layers

• Turn on basic layers for navigation:
  – Boarders and labels
  – Roads

• Explore other layers for additional information

© 2011 Google
Google Earth - Points

• Create placemarks or points

• Change the shape and color

• Store descriptive information
Google Earth - Points

- Timber stands
- Food plots
- Shooting houses
- Buildings

© 2011 Google
Google Earth - Lines

- Create paths or points
- Change the shape and color
- Store descriptive information

© 2011 Google
Google Earth - Lines

• Roads

• Trails

• Streams

*Want distance instead of acreage

© 2011 Google
Google Earth - Polygons

- Create polygon
- Change the shape and color
- Store descriptive information

© 2011 Google

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Google Earth - Polygons

- Timber stand
- Food plot or field
- Pond or lake

*Want acreage instead of distance

© 2011 Google
Data Storage and Sharing

• Points, lines, and polygons can be saved as .kml or .kmz files. Keyhole Markup Language (user preference).

• They can be edited and updated.

• They can be email directly from Google Earth or emailed anytime as an attachment.
Measuring a Distance

• Show ruler

• Choose a line or a path

• Choose the desired units

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Calculating Areas

• Areas can be calculated in Google Earth using the ruler if the area of interest is square or rectangular

• Google Earth Pro has an area feature tool, but it requires purchasing a license

• GE-Path (Freeware)
  – Download
    • [http://www.sgrillo.net/googleearth/gopath.htm](http://www.sgrillo.net/googleearth/gopath.htm)
  – See full list of features
  – Files need to be saved using the .klm extension
GE-Path 1.4.6

http://www.sgrillo.net/googleearth/gepath.htm
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Google Earth Additional Options

• Review adding GPS data

• View the map in Google Maps

• View aerial photographs over time
Topographic Map

• Visit http://www.gelib.com/ng-topo.htm

• Keywords: Google Earth, topographic map, overlay

© 2011 Google
Data Storage and Sharing

- Maps can be printed.

- An image of the map can be saved (.jpeg).

- Images of the maps can be sent to others through email or posted online.

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Developing a Database
Google Earth

• What are some applications you could see this program being used for?

• What would you use it for?
GE Help and Tutorials

• Help
  – http://earth.google.com/support/?hl=en

• Tutorials
  – http://www.google.com/earth/learn/
Alabama Historic Aerial Photo Archive

- Online application
- View historical aerial photographs
- Order digital copies
Alabama Historic Aerial Photos

• Keywords: Alabama, historic, aerial photographs

• Aerial Photography Index (main website)
  – http://alabamamaps.ua.edu/

• Aerial Photography Archive
  • http://alabamamaps.ua.edu/aerials/index.html

• Help is available at
  • http://alabamamaps.ua.edu/help/historical.html

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Finding a Nearby Location and Year

<table>
<thead>
<tr>
<th>Location</th>
<th>Year(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opelika NE</td>
<td>1939, 1954</td>
</tr>
<tr>
<td>Opelika NW</td>
<td>1939, 1954</td>
</tr>
<tr>
<td>Opelika SE</td>
<td>1939, 1954, 2009</td>
</tr>
<tr>
<td>Opelika SW</td>
<td>1939, 1954</td>
</tr>
<tr>
<td>Powledge</td>
<td>1939, 1950, 1964, 2009</td>
</tr>
<tr>
<td>Smiths Station</td>
<td>1939, 1950, 1958, 1973</td>
</tr>
<tr>
<td>Wacoochee Valley</td>
<td>2003</td>
</tr>
<tr>
<td>Whatley Mill</td>
<td>1939, 1950, 1958, 1964</td>
</tr>
</tbody>
</table>
Alabama Historic Aerial Photos

• Use the Archive to find historic aerial photos for your property or an area of interest.

• See how many years of photos you can find for your property or an area of interest.

• Create a photo timeline for your property.
To Purchase Digital Copies – Download a Quote Request

<table>
<thead>
<tr>
<th>Location</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee</td>
<td>1958, 1964</td>
</tr>
<tr>
<td>Opelika NE</td>
<td>1958, 1954</td>
</tr>
<tr>
<td>Opelika NW</td>
<td>1958, 1964</td>
</tr>
<tr>
<td>Opelika SE</td>
<td>1958, 1954</td>
</tr>
<tr>
<td>Opelika SW</td>
<td>1958, 1964</td>
</tr>
<tr>
<td>Parkers Crossroads</td>
<td>1959, 1960</td>
</tr>
<tr>
<td>Pine Grove</td>
<td>1959, 1960</td>
</tr>
<tr>
<td>Powledge</td>
<td>1960, 1964</td>
</tr>
<tr>
<td>Prince Crossroad</td>
<td>1959, 1960</td>
</tr>
<tr>
<td>Ridge Grove</td>
<td>1959, 1958</td>
</tr>
<tr>
<td>Robert G. Pitts Airport</td>
<td>1950, 1958</td>
</tr>
<tr>
<td>Rottell Crossing</td>
<td>1959, 1958</td>
</tr>
<tr>
<td>Roxana</td>
<td>1959, 1964</td>
</tr>
<tr>
<td>Salem</td>
<td>1959, 1958</td>
</tr>
<tr>
<td>Shoatwell</td>
<td>1959, 1964</td>
</tr>
<tr>
<td>Smiths Station</td>
<td>1959, 1958</td>
</tr>
<tr>
<td>Spring Villa</td>
<td>1959, 1958</td>
</tr>
<tr>
<td>Stoneville</td>
<td>1959, 1964</td>
</tr>
<tr>
<td>Tillery Crossing</td>
<td>1958, 1964</td>
</tr>
<tr>
<td>Wacoocceee Valley</td>
<td>2003</td>
</tr>
<tr>
<td>Whatley Crossroad</td>
<td>1959, 1958</td>
</tr>
<tr>
<td>Whatley Mill</td>
<td>1950, 1958</td>
</tr>
<tr>
<td>Wights Crossroads</td>
<td>1959, 1958</td>
</tr>
<tr>
<td>Yarbrough</td>
<td>1950, 1958</td>
</tr>
</tbody>
</table>

To purchase copies (digital only) of aerial photographs, download and print a quote request form.

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Alabama Maps Aerial Photo Order Form

• Fill out the required information

• Follow the directions for purchasing digital copies of the aerial photographs

• If you are unable to find an area of interest, send an email alabama.maps@ua.edu with a location description and coordinates requesting if historical aerial photographs are available and what years are available.
  – You can get coordinates from your GPS unit or using the tutorial information from Google Earth.

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USDA Natural Resources Conservation Service (NRCS) Geospatial Data Gateway

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NRCS Geospatial Data Gateway

• Online application to search for data
• Requires a GIS viewer
• For more advanced users
• Search for data (examples include aerial imagery, topographic maps, elevation information, soils, land use land cover, geology, climate data, etc.)
NRCS Geospatial Data Gateway

• For more advanced users that have a GIS software package or view, the NRCS Geospatial Data Gateway is provides a wide variety of data options.

• Homepage
  – http://datagateway.nrcs.usda.gov/

• Keywords: NRCS, Geospatial, Data, Gateway

• Frequently Asked Questions
NRCS Geospatial Data Gateway

- Requires a GIS viewer

- Data varies by state and county

- Data types:
  - Ortho Imagery or Aerial imagery
  - Topographic maps
  - Elevation maps
  - Land Use Land Cover
  - Geology
  - Soils
  - Climate Precipitation
  - Climate Temperature

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The list in the middle pane indicates the available map layers for your area of interest. The number of maps and total size of the map layers are listed next to the description. Clicking on the icon will provide a pop-up window with that map layer’s description. Use the + icon to get a list of individual maps for that map layer. Within the list of maps, use the icon to get metadata for the specific map and the icon for an individual map preview. You may collapse this map list with the icon. Your selections will be added to the YOUR ORDER Panel on the far right.

You may change your map layers after this step but all of the subsequent choices made for your order will be removed.

Here are the available map layers for your selected area of interest.

- **2006 National Ag. Imagery Program Mosaic**, 1 map 734.933 MB
- **2009 National Ag. Imagery Program Mosaic**, 1 map 583.504 MB

**Geographic Names**

- **Geographic Names - Populated Places**, 1 map 0.060 MB
- **Geographic Names - Non-Populated Places**, 1 map 0.316 MB

**Land Use Land Cover**

- **National Land Cover Dataset by State**, 1 map 247.251 MB
- **Cropland Data Layer by State**, 1 map 68.096 MB

**Geology**

- **National scale Geology by State**, 1 map 34.994 MB

**Soils**

- **Major Land Resource Areas by State**, 1 map 1.556 MB
- **Common Resource Areas by State**, 1 map 1.794 MB
- **Soil Survey Spatial and Tabular Data (SSURGO 2.2)**, 1 map 29.855 MB
- **Soil Survey Tabular Data Only**, 1 map 15.170 MB
- **U.S. General Soil Map (STATSGO) - State Subset**, 1 map 25.875 MB

**Climate Precipitation**

- **Annual Average Precipitation by State**, 1 map 0.945 MB
- **Monthly Average Precipitation by State**, 12 maps 7.765 MB

**Climate Temperature**

- **Annual Minimum Temperature by State**, 1 map 1.820 MB

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PROJECTION

Available projections are based on the map layers chosen. A single projection must be chosen for the whole order. If you desire to have different projections for different map layers, it is recommended to make separate orders for each map layer. Please select a projection for the order:

- Select Projection
- Select Projection
- Geographic NAD83
- AutoUTM
- UTM Zone 16 NAD83
- State Plane Alabama East NAD83

The Data Inclusion option indicates that an inclusion will be delivered with a selected map layer. This is similar to a “clipping” option for the map layers. Due to the limitations for your selected area of interest (Where) the inclusion will be Standard (the entire data set will be delivered for the order area chosen).

For a list of what to expect for geographical coverage for each map layer in your order, see this Inclusion Table.

DELIVERY

Please select a delivery option for the order. Available delivery options are based on map layers chosen. USDA personnel may obtain data on optical media (DVD, CD) without incurring a cost. Other agencies and the private sector are charged: FIFTY DOLLARS (50.00 US) FOR EACH CD and ONE-HUNDRED DOLLARS ($100.00 US) FOR EACH DVD.

- FTP
  - Estimated completion in: 1 Minute. Click to see a download time chart.
- CD
  - This order will require 1 CD(s) for a total of $50.00 US.
- DVD
  - Requested data will not exceed CD size capacity.

For additional delivery options please click Here

CONTINUE
Finding a Viewer (Examples)

- **Tatuk**
  - [http://www.tatukgis.com/Products/EditorViewer.aspx](http://www.tatukgis.com/Products/EditorViewer.aspx)

- **ArcReader**

- **fGIS**
  - [http://www.forestpal.com/fgis.html](http://www.forestpal.com/fgis.html)
  - [http://www.forestpal.com/Toolbox_mappers.html#photomaps](http://www.forestpal.com/Toolbox_mappers.html#photomaps)

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Other Sources of Data

- Alabama Cooperative Extension Service: Alabama Water Quality Information Systems
  - http://www.aces.edu/waterquality/gis_data/gis_data_viewers.htm

- GIS Data Depot
  - http://data.geocomm.com/

- Lansat
USDA National Agroforestry Center (NAC) CanVis

• Requires downloading a program or requesting a CD or DVD

• Create visual simulations of potential management options using digital photographs
USDA National Agroforestry Center (NAC) CanVis

• Keywords: National, Agroforestry, CanVis, visual simulation

• See http://www.unl.edu/nac/simulation/index.htm

• For users with an interest in creating visual simulations of potential management options using digital photographs, CanVis provides a variety of options.
CanVis

• CanVis is a free program that requires either downloading the program or ordering a CD or DVD.

• Download
  – http://www.unl.edu/nac/simulation/download.htm

• Order
  – http://www.unl.edu/nac/simulation/order.htm
CanVis Image Editing Software

• With CanVis users can:
  – Edit digital photographs
  – Add trees, shrubs, grasses and groundcover, etc.
  – Remove trees, shrubs, buildings, etc. from a photograph
  – Use a series of photographs to show a simulation before and after a potential management option like planting trees, planting shrubs, thinning a stand, adding a fence, etc.

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Examples

• A picture can really make a difference when making decisions and planning management options.

• Example simulations can be found at http://www.unl.edu/nac/simulation/examples.htm
CanVis Examples

http://www.unl.edu/nac/simulation/examples.htm
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CanVis Examples

http://www.unl.edu/nac/simulation/examples.htm

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CanVis Examples

http://www.unl.edu/nac/simulation/examples.htm

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Example of a potential future silvopasture stand

Image create using CanVis 2.3

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USDA National Agroforestry Center (NAC) CanVis

• What are some applications you could see this program being used for?

• What would you use it for?
Help Guide, Training Movies, and Publications

- CanVis is downloaded with a detailed guide and training movies

- Publications are available at the bottom of the page at 
  http://www.unl.edu/nac/simulation/products.htm#canvis and 
  http://www.unl.edu/nac/publications.htm

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Question and Answer Session

• Creating maps with aerial photography, soils information, and topographic backgrounds

• Storing points, lines, polygons, and descriptive information for areas of interest

• Finding data online

• Creating visual simulations
Question and Answer Session

- USDA/NRCS Web Soil Survey
- Google Earth
- Alabama Historic Photo Archive
- USDA NRCS Geospatial Data Gateway
- USDA Agroforestry Center CanVis
- Additional Online Mapping and Spatial Resources

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Short Course Design

• 1 day, hands-on short course to introduce attendees of online mapping and spatial resources using the booklet “Online Mapping and Spatial Resources for the Private Forest Landowner”

• Each topic will begin with introductory information and include instructor led examples and hands-on exercises.

• All examples and exercises will focus on real-world forestry and other natural resource applications.

Gilbert and Kush 2012
Online Mapping and Spatial Resources Short Courses

• March 13, 2012 at Auburn University School of Forestry and Wildlife Sciences

• April 3, 2012 at the Solon Dixon Forestry Education Center near Andalusia, Alabama

• Please let me know if you are interested in having a short course presented near you.
Future Booklets and Courses

• Advanced Spatial Resources for Private Landowners and Conservation Professionals
  – Utilize resources and tools available online and often free with examples that can be utilized to create data layers, digitizing, file conversion, overlay analyses, and detailed reporting

• Integrating GPS and GIS for Private Forest Landowners

*Booklets and courses are dependent on funding, support, and interest.
For More Information

• Contact the Longleaf Pine Stand Dynamics Lab

  – http://www.lpsdl.auburn.edu/
  
  – Mr. John Gilbert gilbejo@auburn.edu  334-329-0236
  
  – Dr. John Kush kushjoh@auburn.edu  334-844-1065
  
  – Dr. Rebecca Barlow at rjb0003@auburn.edu  (334)844-1019
Mapping Your Land: An Overview for Landowners

Online Mapping and Spatial Resources for the Private Forest Landowner

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