

The Inventory

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An Update Concerning the SRS FIA Program

SRS FIA Information Update

Traditional or historical uses of Forest Inventory Analysis (FIA) data centered around timber supply and availability, growth and removals, and/or wood use or in more modern terms—forest resource sustainability. These uses of FIA data and information are still very important and one of the primary uses of online FIA data query tools and downloadable FIA data. FIA data is also being used for other means—

- Forest health;
- Rate of land-use change;
- Forest carbon inventory and flux;
- Quantifying potential future conditions; and
- Wildlife habitat characterization.

This last item—wildlife habitat characterization—has received increased use in the past couple of years although FIA data has been used for these purposes for many years. [Note: For a historic listing of citations on nontraditional uses of FIA data please see the following document]:

Rudis, V.A. 2003. Comprehensive regional resource assessments and multipurpose uses of forest inventory and analysis data, 1976 to 2001: A review. Gen. Tech. Rep. SRS-70. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 129 p. <http://www.srs.fs.usda.gov/pubs/6446>.

FIA data has been crucial in many specific cases:

- Quantifying resources at risk to certain species—specific pests, including emerald ash borer, hemlock woolly adelgid, thousand canker disease of black walnut, and the redbay ambrosia beetle;
- Determining potential habitat for endangered or threatened species, including the gopher tortoise and northern long-eared bat;
- Tracking any increase or decrease of individual tree species such as flowering dogwood, butternut, eastern hemlock, and cypress;
- Quantifying the numbers of standing dead trees which provides critical habitat for some wildlife species;
- Assessing forest disturbances, including wildfire, insects and diseases, and extreme weather events; and
- Tracking changes in critical forested habitats such as longleaf pine forests and their distribution.

These uses truly demonstrate the versatility and flexibility in the use of FIA data. The uses of FIA data is limited only by the user's imagination and creativity. In fact, the FIA Program is probably the most intensive and extensive forest monitoring and analysis program in existence in the world!

As always, if you have any technical questions regarding FIA, please submit those questions to Charlene Walker (cwalker@fs.fed.us) and we will address them in a future issue of *The Inventory*. Thank you for your interest in FIA and please let us know how we may serve you in the future.

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Status of Current Field Inventories

State	Cycle start date	Subcycle start date	Cycle and inventory year of current inventory	Percent of current subcycle collection completed
Alabama	2012	Sept-14	10-2014	19
Arkansas	2010	Jan-14	10-2014	87
Florida	2014	Feb-14	10-2014	74
Georgia	2009	Nov-13	10-2014	83
Kentucky	2010	June-13	7-2013	85
Louisiana	2009	Feb-14	8-2014	58
Mississippi	2009	Aug-14	9-2014	28
North Carolina	2008	Oct-14	9-2014	15
Oklahoma (east)	2010	Jan-14	8-2014	100
Oklahoma (west)	2009	July-14	2-2014	87
Puerto Rico	2011	Apr-14	5-2013	73
South Carolina	2012	Jan-14	11-2014	90
Tennessee	2009	Nov-14	9-2013	2
Texas (east)	2013	Nov-13	10-2014	88
Texas (west)	2004	Apr-13	1-2013	73
U.S. Virgin Islands	2009	Aug-14	3-2014	78
Virginia	2012	June-14	10-2014	35

Information compiled December 1, 2014.

For more information, contact Dale Trenda at 865-862-2039 or drenda@fs.fed.us.

Resource Use Update

For more information, please contact Mike Howell at 865-862-2054 or mhowell@fs.fed.us.

From October 19 thru November 29, 2014, Peter McBride (FIA Field Forester, Louisiana) detailed with the Resource Use section of the Southern Research Station (SRS) Forest Inventory and Analysis (FIA) Program. Peter's main duties included conducting primary mill surveys for the State of Kentucky and entering mill survey information into a national database

program. Peter was also given the opportunity to interact with personnel from other sections within SRS FIA, gaining an understanding of various roles in the program. Although this was the final detail in the Resource Section for calendar year 2014, plans are for future details in 2015.

FY2015 Research Publications Published since September 2014

Dooley, K.J.W.; Brandeis, T.J. 2014. Forests of east Texas, 2013. Resource Update FS-31. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.

Greenberg, C.H.; Franzreb, K.E.; Keyser, T.L. [and others]. 2014. Short-term response of breeding birds to oak regeneration treatments in upland hardwood forest. Natural Areas Association. 34(4): 409-422.

Oswalt, C.M.; King, C.R. 2014. Forests of Tennessee, 2012. Resource Update FS-32. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.

Oswalt, S.N. 2014. Status of ash (*Fraxinus* spp.) species in Alabama, Arkansas, Mississippi, and Louisiana, 2013. e-Science Update SRS-108. U.S. Department of Agriculture Forest Service, Southern Research Station. 5 p.

Modeling Landcover Change of Impervious Surfaces Related to Urban Sprawl

It is a rare human activity to roll up the sidewalk when the sun sets. The tendency is more toward covering land surface with concrete, asphalt, and rooftops than removing such impervious cover. These anthropogenic structures then become barriers to both vegetation growth and leaching of rainwater into the ground. Map data of this impervious landcover is a valuable tool for determining and understanding urban expansion patterns.

Percent impervious data is one product of the National Land Cover Database (NLCD), updated on a 5-year basis. More frequent updates, such as 1 to 3 year intervals, would improve our understanding of impervious surface expansion and removal. Creating a consistent percent impervious landcover map on an annual basis warrants a review of the impacts of different calibration, prediction, and modeling techniques across different ecoregions. This study tests various model calibration techniques, using different model predictor variables and model types across different ecoregions, to provide a better understanding of how these methods affect model outputs. Results indicate that:

- Modeling should be performed on individual ecoregions in order to ensure maximum model performance.

- The optimal calibration method is to acquire calibration data by sampling an existing percent impervious landcover layer.
- There are minimal differences between modeling methods, but Cubist proved to be the most efficient modeling technique across all study areas.
- While both Landsat and ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) thermal data were effective for modeling percent impervious landcover within the moist-climate study areas, Landsat spectral data proved to be the best across all ecoregion types.

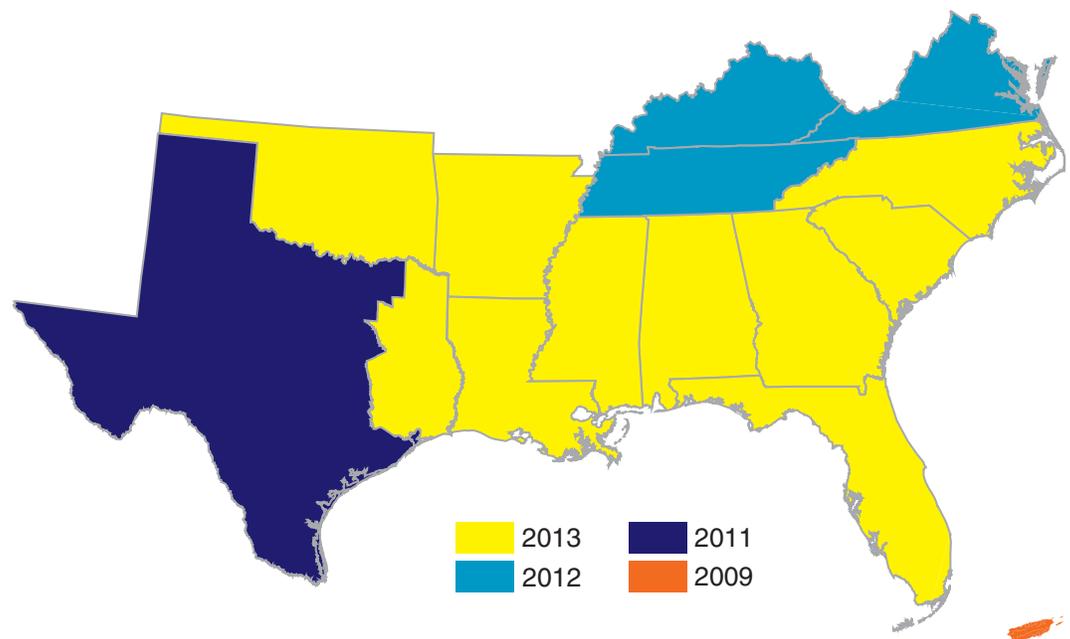
Results from this study suggest that creating a nationwide percent impervious landcover map on an annual basis is practical based on the wide availability of data and sufficient computing power. The next step is to gain a better understanding of the optimal automated model calibration method, model parameters, and hybridized predictor dataset.

Research partner/collaborator and research location: Ian Housman, USFS Remote Sensing Applications Center, Salt Lake City, Utah.

For more information, contact Dennis M. Jacobs at 865-862-2060 or djacobs@fs.fed.us, Dumitru Salajanu 865-862-2050 or dsalajanu@fs.fed.us.

Current Status of FIA Data Posted

Most Recent FIA Data by State and Collection Year



For more information, contact Ali Conner at 865-862-2228 or aconner@fs.fed.us.

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FIA is a USDA Forest Service research work unit which collects, analyzes, and reports on data pertaining to our forest land in the Southern region. This region includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, the U.S. Virgin Islands, and Virginia.

FIA conducts this program of research to improve the understanding of the Southern forest ecosystem.

Government and private agencies utilize this data to monitor forest resources, forest use, and forest health. The collection of data is done on private and public land.

Our system development success is a direct result of our partners, our talented scientists, analysts, computer specialists, and other staff members who have continually contributed to the mission of this complex project.

The Forest Service, U.S. Department of Agriculture (USDA), is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

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National and Southern FIA Web sites of Interest

National FIA Web site: <http://www.fia.fs.fed.us>

National FIA database available at: <http://www.fia.fs.fed.us/tools-data/other/default.asp>

National Timber Product Output (TPO) database available at: <http://srsfia2.fs.fed.us/>

National Woodland Owner Survey Web site: <http://www.fia.fs.fed.us/nwos/>

Information specific to Southern States: <http://srsfia2.fs.fed.us/>

Electronic copies of SRS FIA publications at: <http://www.srs.fs.usda.gov/pubs/>