

# The Inventory

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## An Update Concerning the SRS FIA Program

### *SRS FIA Information Update*

It is with great sadness that I inform you of the untimely passing of Dr. Paul C. Van Duesen on Friday August 21. Paul is survived by his wife, Shirley and their son, Daryl. Some of you may have heard through other sources but I wanted to make sure everyone knew.

Paul was a great supporter of the Forest Inventory and Analysis (FIA) Program. Although his comments and questions on the FIA Program could be direct and to the point, I have to believe that it was because of his understanding of the need and value of FIA and his active support of the Program that he made these comments. If a problem was identified (sometimes by Paul himself), he always had a proposed solution. Paul was actively involved with the organization and implementation of the National FIA Users Group Meeting. Future National Users Group Meetings will not be the same without Paul. He will be missed for these and other activities but he will be mainly missed as a colleague to all and a friend to many. If you would like some additional information about Paul's life, please visit <http://www.ncasi.org/News/Forestry-Environmental-Program-News/27-08/In-Memoriam--Paul-C--Van-Deusen.aspx>.

As always, if you have any technical questions regarding FIA, please submit those questions to Charlene Walker ([cwalker@fs.fed.us](mailto: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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### ***Forest Service Scientists Conduct Reporting Workshop in Vietnam***

Many countries are developing (and in some cases modifying) their own forest inventory systems to fulfill national and international forest information needs. Scientists from the FIA unit work with interested countries around the world to improve their forest inventories and expand their knowledge of data analysis and reporting. SilvaCarbon is the flagship program that supports the United States Government's strategy for fast start financing for countries participating in reducing emissions from deforestation and forest degradation and enhancing forest carbon stocks (objectives of the United Nation's REDD+ program) in developing countries. As one of the cooperating Federal agencies in the SilvaCarbon effort, the U.S. Forest Service's International Programs

and FIA have shared experiences with several countries on the design and implementation of national forest inventories, including the Government of Vietnam. In preparation for reporting on their forest inventory data, Vietnam requested additional collaboration and capacity building on information dissemination. The workshop was designed in recognition of the importance of delivering information to those that need it to make decisions on forest resource management, to make better use of the resources spent implementing an inventory, and thereby maintain support for forest inventory programs. This workshop covered the writing of traditional reports, factsheets, newsletters, scientific articles, giving effective presentations, as well as utilizing social media to distribute the results of a forest inventory.

*For more information contact Anita K. Rose at 865-862-2029 or [anitarose@fs.fed.us](mailto:anitarose@fs.fed.us); Christopher Oswald at 865-862-2068 or [coswalt@fs.fed.us](mailto:coswalt@fs.fed.us); Tom Brandeis at 865-862-2030 or [tjbrandeis@fs.fed.us](mailto:tjbrandeis@fs.fed.us).*



Tom Brandeis, Anita Rose, and Christopher Oswald along with workshop participants. (photo by Vo Viet Cuong)

### ***Technical Assistance Visit Held in Knoxville, TN***

Southern Research Station FIA completed its Technical Assistance Visit (TAV) in Knoxville, August 19–20. As discussed in the last issue of *The Inventory*, the TAV is held to gather stakeholder input for development of a new Research Work Unit Charter. A broad spectrum of 25 users and partners demonstrated their interest in our programs by traveling to Knoxville to participate in discussions around the research and deliverables desired from FIA in the next 5 years, and we thank them for taking the time to visit with us and provide their input! Several others provided feedback via written responses to a survey that was sent out at the end of March.

Among the issues that rose to the top of the discussions were the need for more and better communication with regard to FIA activities such as urban inventory and invasive species, the need to better incorporate technologies such as remotely sensed imagery into what we

do, providing more effective tools to measure change, working to build on our partnership with the States to improve things such as National Woodland Owner Survey, the need to standardize sampling methodologies for disturbance assessments across State lines, and a number of items around timeliness and formatting of reported information. One overarching theme was the need to preserve, as best we can, the 5-year cycle so that we may report useful information on forest resources across the South.

We are now faced with the task of incorporating this feedback into our new Research Work Unit Charter. We anticipate submission of a revised charter for Agency approval within the next several weeks. Using the Farm Bill language specific to FIA and the expressed desires of our stakeholders, we will continue to strive to innovate and provide timely, relevant data as we move into the future.

*For more information, contact JT Vogt at 865-862-2035 or [jtvogt@fs.fed.us](mailto:jtvogt@fs.fed.us).*

**Resolving the Pulpwood  
Canvass With Inventory  
Harvest Information,  
Part II**

Back in 2012, Tony Johnson and I wrote a paper on “Resolving the pulpwood canvass with inventory harvest information.” It may be found at [www.srs.fs.fed.us/pubs/gtr/gtr\\_srs157/gtr\\_srs157\\_147.pdf](http://www.srs.fs.fed.us/pubs/gtr/gtr_srs157/gtr_srs157_147.pdf).

The conclusions of that paper were that counties with a higher proportion of private forest were more likely to be cut; but the slope of the curve varied somewhat from State to State. For public forest, management practices varied quite a bit. In some States, counties heavy with public forest were unlikely to be cut; in other cases, they were quite likely.

Plots are recorded as treated if they show evidence of cutting. Up to three treatment codes per plot are recorded, and for this study codes were weighted equally.

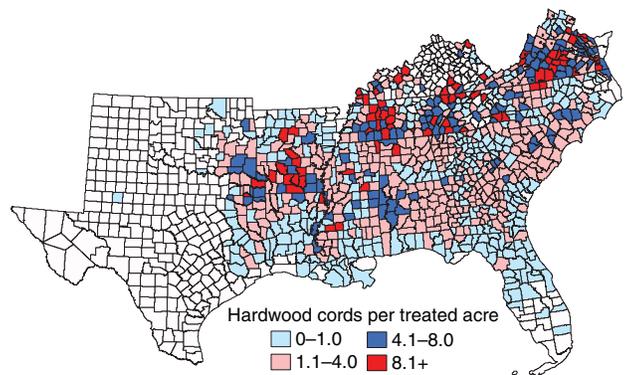
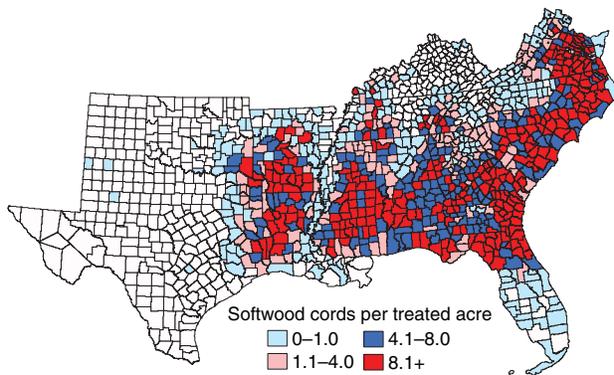
This year’s methods were tweaked somewhat. Although logistic regression constrains the output between zero and one, a few severe

outliers can ruin the regression line for the entire dataset. Instead of using logistic regression, we used linear regression. With the exception of a few counties, this approach produced reasonable estimates. Only five counties in each class (softwood and hardwood) had estimates higher than 36 cords per treated acre. Newport News, VA was on both lists; similarly three of the other eight counties had <100,000 acres of forest.

The overall maps look reasonable. The softwood maps show heavy production in the coastal plain, generally decreasing toward the Appalachian Mountains. The Mississippi River basin shows little production, then Arkansas, western Louisiana, east Texas, and southeast Oklahoma show high production also.

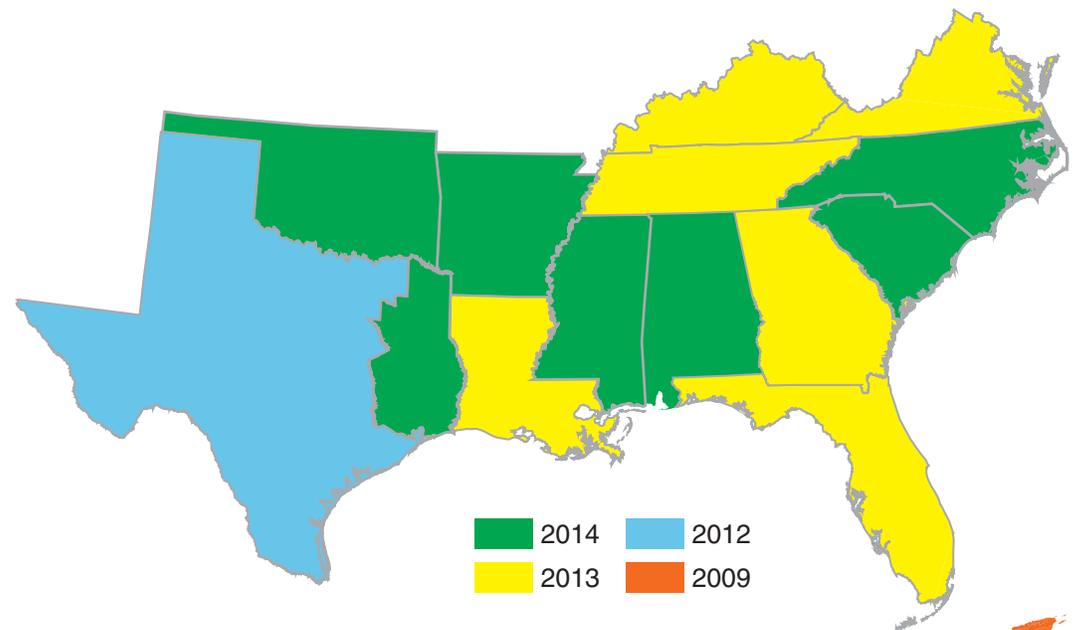
The hardwood map shows low production along the Gulf Coast and along urban corridors, but much higher in central Virginia, and parts of Arkansas and Tennessee.

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**Current Status of FIA  
Data Posted**

**Most Recent FIA Data by State and Collection Year**



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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	10-2015	85
Arkansas	2010	Jan-15	10-2015	3
Florida	2014	Apr-15	10-2015	60
Georgia	2015	Jan-15	11-2015	32
Kentucky	2010	Apr-15	7-2014	31
Louisiana	2009	May-15	8-2015	13
Mississippi	2009	Aug-14	9-2015	68
North Carolina	2008	Oct-14	9-2015	86
Oklahoma (east)	2015	Jan-15	9-2015	58
Oklahoma (west)	2009	May-15	2-2015	19
Puerto Rico	2014	Apr-14	5-2014	100
South Carolina	2012	Jan-15	11-2015	69
Tennessee	2009	Nov-14	9-2014	30
Texas (east)	2013	Dec-14	10-2015	63
Texas (west)	2015	Apr-15	2-2014	24
U.S. Virgin Islands	2014	Sept-14	3-2014	100
Virginia	2012	June-14	10-2014	85

Information compiled August 26, 2015.

For more information, contact Dale Trenda at 865-862-2039 or [dtrenda@fs.fed.us](mailto:dtrenda@fs.fed.us).

### Regional Variation in Caribbean Dry Forest Tree Species Composition

Although tropical dry forests are considered today as the most threatened tropical forest ecosystems, they have not been well studied in areas such as the Bahamian Archipelago and a comprehensive, quantitative analysis of Caribbean dry forest composition is still lacking. Bahamian dry forest is a globally rare and endangered ecosystem identified as an important conservation target, threatened by clearing and degradation, but little is known about its relationship to other dry forests in the region, or compositional variation within the archipelago.

To fill the gap in our knowledge of regional variation in Caribbean dry forest composition, we analyze data from FIA plots from Puerto Rico and the U.S. Virgin Islands (USVI), along with plots sampled in the Bahamian Archipelago. These data range across two-thirds of the latitudinal extent and half of the longitudinal extent of the West Indies. To see how tree species composition varied in relation to geographical and environmental gradients in the broadleaf dry forests of the Caribbean, we specifically addressed the following research questions: (1) What are the broad regional patterns of variation in Caribbean dry forest composition? (2) Is there local variation in dry forest composition within the less studied Bahamian islands that is geographically or environmentally structured?

Published findings<sup>1</sup> show that regionally, the largest forest assemblage included over half of all plots and comprised plots from all three island groups. Indicator species were native *Bursera simaruba* (Burseraceae) and *Metopium toxiferum* (Anacardiaceae). Species composition was similar to dry forests throughout the region based on published studies. Other groups we identified at the regional scale consisted of many Puerto Rico and USVI plots that were dominated by nonnative species, documenting the widespread nature of novel ecosystems. At the local scale, the Bahamian data clustered into two main forest assemblages corresponding largely to the two islands sampled, a pattern consistent with the latitudinal aridity gradient.

The striking similarities and overlap in dominant species composition found in our regional-scale analysis suggest that a more comprehensive, quantitative region-wide treatment of Caribbean dry forest is needed to define Caribbean dry forest types at established vegetation classification hierarchies. A regionally coherent classification is needed to guide conservation management of this widespread yet threatened forest community in an era of global change.

<sup>1</sup> Franklin, J.; Ripplinger, J.; Freid, E.H., Marcano-Vega, H.; Steadman, D.W. 2015. Regional variation in Caribbean dry forest tree species composition. *Plant Ecology*. 216(6): 873–886. <http://www.treesearch.fs.fed.us/pubs/48866>.

For more information, contact Humfredo Marcano-Vega at 787-764-7265 or [hmarcano@fs.fed.us](mailto:hmarcano@fs.fed.us).

***FY2015 Publications  
Published since June 2015***

- Bentley, J.W.; Cooper, J.A.** 2015. Southern pulpwood production, 2012. e-Resour. Bull. SRS–206. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 39 p.
- Brandeis, T.J.** 2015. Forests of east Texas, 2014. Resource Update FS–60. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.
- Brown, M.J.; Vogt, J.T.** 2015. North Carolina's forests, 2013. Resour. Bull. SRS–205. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 91 p.
- Lambert, S.; Randolph, K.; Cooper, J.** 2015. Forests of Oklahoma, 2014. Resource Update FS–62. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.
- Lorber, J.H.; Rose, A.K.** 2015. Status of bottomland forests in the Albemarle Sound of North Carolina and Virginia, 1984–2012. e-Res. Pap. SRS–54. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 12 p.
- Oswalt, S.N.** 2015. Forests of Mississippi, 2014. Resource Update FS–49. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.
- Oswalt, S.N.** 2015. Mississippi's forests, 2013. Resour. Bull. SRS–204. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 81 p.
- Rose, A.K.** 2015. Forests of South Carolina, 2014. Resource Update FS–53. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.
- Rosson, J.F., Jr.; Rose, A.K.** 2015. Arkansas' forests, 2010. Resour. Bull. SRS–203. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 100 p.
- Stringer, C.E.; Trettin, C.C.; Zarnoch, S.J.; Tang, W.** 2015. Carbon stocks of mangroves within the Zambezi River Delta, Mozambique. *Forest Ecology and Management*. 354: 139–148. 10.1016/j.foreco.2015.06.027
- Weiskittel, A.R.; MacFarlane, D.W.; Radtke, P.J. [and others].** 2015. A call to improve methods for estimating tree biomass for regional and national assessments. *Journal of Forestry*. 113(4): 414–424.

***Scanning FIA Data for  
Forest Decline Hotspots***

*For more information,  
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Detecting clusters of tree mortality is an essential aspect of monitoring forest health in the same way that detecting outbreaks of human disease is an essential part of monitoring public health. Spatial scan software used to identify human disease “hotspots” can also be employed in forest health monitoring. The utility of such software programs depends upon the location accuracy of the georeferenced forest inventory data and other input required by the scanning

algorithm. Together with FIA data, the free software program SaTScan™ is being utilized under varying input scenarios to identify forested areas with elevated numbers of standing dead trees, a potential indicator of forest decline. One of the goals of this study is to evaluate the effect of using perturbed (“fuzzed and swapped”) plot coordinates on the location and composition of clusters detected by the scanning algorithm.

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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.

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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/>  
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/>